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ABSTRACT

The conference that generated these papers focused on the range of issues presently facing university libraries. Because there is no general consensus on the nature or importance of the most substantive problems or the solutions to those problems, the conference was designed to encourage discussion of the issues. An analysis of a series of recent government reports on aspects of higher education, which was made available to all speakers and participants, provided a special context for the conference. This publication includes two background papers, a keynote address, and six additional papers: (1) Background Paper: "Confronting the Future: University Libraries in the Next Decade--An Outline of Some Issues (Christine Henderson and W. Boyd Rayward); (2) Background Paper: "Commonwealth Government Policy and Reports on Higher Education: An Overview for Libraries" (Stephen Oakshott); (3) Keynote Address: "Print, Automated, Electronic: University Libraries in the Next Decade" (Michael Buckland); (4) "Challenges Confronting University Libraries and Strategies for Response" (K. R. McKinnon); (5) "Funding of Higher Education: Issues for Libraries" (George Zuber); (6) "Libraries in Education for the 21st Century: Intersectoral Relationships" (Gregor Ramsey); (7) "Shifting the Paradigm: Successfully Managing University Libraries" (Robert Prinable); (8) "Tactics or Strategy? The Future from the University Information Provider's Perspective" (Tom Cochrane); and (9) "Conclusion" (Tony Wicken). The volume also contains highlights of the general discussion and a brief biography of each of the 10 contributors of papers. (KRN)

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CONFRONTING THE FUTURE

UNIVERSITY LIBRARIES IN THE NEXT DECADE

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UNIVERSITY LIBRARIES IN THE NEXT DECADE

Proceedings of a Conference at
The University of New South Wales,
Friday 12th June, 1992

Edited by W. Boyd Rayward

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Table of Contents

Minister of Higher Education's Letter v

Foreword
Professor Tony Wicken, Deputy Vice Chancellor, University of NSW vi

Editorial vii

BACKGROUND PAPERS:

Confronting the Future: University Libraries in the Next Decade — An Outline of Some Issues
Christine Henderson and W. Boyd Rayward 1

Commonwealth Government Policy and Reports on Higher education: An Overview for Libraries
Stephen Oakshott 9

KEYNOTE ADDRESS:

Print, Automated, Electronic: University Libraries in the Next Decade
Michael Buckland 35

PAPERS:

Challenges Confronting University Libraries and Strategies for Response
K. R. McKinnon 41

Funding of Higher Education: Issues for Libraries
George Zuber 49

Libraries in Education for the 21st Century: Intersectoral Relationships
Gregor Ramsey 55

Shifting the Paradigm: Successfully Managing University Libraries
Robert Prinable 65

Tactics or Strategy? The Future from the University Information Provider's Perspective
Tom Cochrane 75

Conclusion
Tony Wicken 87

GENERAL DISCUSSION 91

CONTRIBUTORS 99

The Hon. Peter Baldwin MP
Minister for Higher Education and Employment Services

Dr Christine Henderson
University Librarian
The University of New South Wales
PO Box 1 Kensington NSW 2033

Dear Dr Henderson

I wish to extend my best wishes to the participants of the Seminar, "Confronting the Future: University Libraries in the Next Decade," being held today.

Libraries play a key role in the provision of higher education and it is essential that we develop strategies which support that position in the most effective and efficient manner possible. This seminar, through its examination of the current position and future needs of university libraries, will be instrumental in informing and assisting the Government, the higher education institutions and the libraries themselves to consider the most appropriate measures which can be taken to develop these strategies.

I apologise for being unable to attend this morning. However, I would like to express my interest in the issues under consideration and would be very pleased to receive information on the outcomes of your discussions.

I wish you well in the rest of your discussions today.

Yours sincerely
Peter Baldwin

Parliament House Canberra ACT 2600

6

Foreword

The conference, Confronting the Future: University Libraries in the Next Decade, presents a rare opportunity. Through the stimulation of the papers from a varied line up of speakers and through the interaction of participants we are compelled to confront the future for university libraries. While all of us necessarily consider the future in our daily lives, the conference has provided a moment of escape from the myriad distractions of busy schedules so that we can focus our minds on the nature of, and possible solutions to, the complex and interesting issues that university libraries must deal with.

All of us at the conference, or now reading these proceedings of it, are stakeholders in academic libraries. Some of us have a prominent role in managing the research process in our institutions. Some of us, like myself, have a role in the university hierachy which encompasses responsibility for the library. Some are part of the senior management of academic, state or national libraries. Some are academics whose research and teaching needs provide university libraries with their main reason for being. We each have our own perspectives on the meaning of the mounting crescendo of changes in higher education, their implications for the teaching and research process and the role of information technology in our world.

All of us are committed to the importance of information in the research and teaching process, concerned to see that libraries become more effective but also concerned to contain costs and husband the increasingly constrained resources at our disposal. All of us wish to promote better professional education of our library staffs so that they can play a more effective role in helping the library to fulfill its potential. Our main concerns must be : what should university libraries become in the next ten years? How can the desired futures best be realised? The papers before you represent an attempt to formulate some answers to these questions.

Professor Tony Wicken
Deputy Vice-Chancellor
University of New South Wales
CHAIRPERMAN OF THE CONFERENCE

Editorial

The University of New South Wales conference on June 12 1992 focused on the extraordinary range of issues presently facing university libraries. Recognising that there is no general consensus, either on solutions to or even the nature and relative seriousness of most of the substantive and "political" problems that university libraries have to deal with, we saw the conference's main function as simply to encourage thoughtful discussion from a number of points of view. The seminar was also given a special context by an analysis of a series of relatively recently released government reports on aspects of higher education. The background paper prepared by Stephen Oakshott on these reports was sent to all speakers and was made available to all participants.

We intended our meeting to stand in contradistinction to a number of important recent professional meetings at the national level, such as the Australian Libraries Summit in 1989 and the Towards Federation 2001 conference this year. These meetings had highly developed agendas finalised after a long consultative process with individual experts and professional groups. Their organisers were concerned that practical recommendations should emerge from the highly structured deliberative processes that were set in place and that central to the outcomes of the meetings should be clear strategies for subsequent action.

Our meeting, on the other hand, was concerned with academic libraries as a special group of libraries and with exploring issues. Its origins lay in questions, some of which are presented below in the issues paper that was made available to all participants, that the organisers have been able to formulate only with difficulty and in considerable doubt as to clarity, priorities and completeness. The meeting was intended to be an occasion that would be "academic" in the best sense of that epithet. The ultimate accolade for us would be that it was intellectually and professionally stimulating and has set people thinking more deeply and in different ways, either about the subjects dealt with or those that were not.

Nevertheless, the purity of this academic objective was a little compromised because implicit in the thinking behind the conference is a query. It is abundantly clear from Oakshott's paper and from the anecdotal evidence that any of us can produce in the twinkling of an eye, that academic librarians as a group have not been as successful as they believe they must be in attracting the attention and support of government or their own university administrations. University libraries are in the midst of great changes some of which would seem to have enormous potential for enabling them to contribute more effectively than now to institutional and national educational goals. Yet there is little or no general recognition by government or academic administrators of the range and extent of the contributions libraries now make, or might better make in the future, to meeting such goals whether related to changing national priorities or to the quality of academic performance at the institutional level. Thus, unsurprisingly, there is also no clear recognition of what is needed financially, organisationally and technologically for academic libraries to fulfill their potential.

Would it, therefore, be useful for librarians as a professional group to work both internally in their professional organisations and externally with other interested bodies towards the formulation of one or more position and policy statements that could help guide developments in academic libraries in the near future? Such statements might serve as a basis for engendering a more widely diffused understanding than is the case now of the changing nature and functions of these libraries. They might also, by eventually identifying priorities for action, assist decision makers in individual libraries, university chancelleries and in Canberra. To the extent that such policy statements are already being developed, the seminar might add weight and direction to them.

The Minister of Higher Education, the Hon. Peter Baldwin, was to open the conference and to address it on matters of interest to the government. Prevented from attending at the last moment, he has expressed interest in the outcomes of the conference and his letter of greeting is included in the conference proceedings.

Cooperatively organised by the Library and the School of Information, Library and Archive Studies at the University of New South Wales, this conference represents a step in a preliminary process of scrutiny and collegial discussion. Its success organisationally is owing to the unstinting efforts of a number of members of staff in the Library and the School for which we, as directors of the conference, are most grateful.

Christine Henderson and W. Boyd Rayward

Confronting the Future: University Libraries In The Next Decade — An Outline of Some Issues

Christine Henderson and W. Boyd Rayward

This paper is intended to identify a complex, interacting, overlapping set of issues, questions, problems, and topics that should be part of any discussion of the future of library services within the university. Around some or all of these points, position and policy statements might eventually be framed, though much research, analysis and debate will be needed to establish facts and to tease out implications, relationships and priorities. Some of what follows is perhaps tendentiously expressed. Any position apparently implicit in the way in which an issue or question is expressed here is intended only to stimulate discussion. We do not pretend to offer solutions. Much of the paper is simply presented in note form to emphasise its provisional nature. It will have achieved its aim if it generates interest in the issues and some debate about them.

Roles and functions of University Libraries

The sets of roles and responsibilities of the university library are not simple. They are complex and often competing or conflicting. The tensions between them have become particularly acute in the recent period of increased competition for declining resources. Is more to be done with less — or less? If the latter, what, how and for whom?

These tensions are often exacerbated by the promises, current inadequacies, expense and potential impact of rapidly changing "information" technology. The developments in the technology, however, are always incomplete and evolving. What can be done now? What should be delayed in the expectation of more economically or technically viable outcomes of developments still underway? How can we decide what this unending developmental process, so exciting and confusing, will produce in fact — and, above all, when — as opposed to what will remain as imaginative extrapolation from as yet unrealised possibilities? These questions have great importance for those concerned with the technological infrastructure of university libraries and with re-assessing and re-developing their functions and the activities associated with those functions.

Is the Library at the heart of the teaching and research missions of the university as is often claimed? If so, what does this mean in practice? Or is the library better described as an adjunct service organisation that should be claiming less for itself and not trying to do more than is really required? Why are academic libraries in this country for the most part organisationally placed among the administrative rather than academic functions of the university?

Related to this, to what extent does the current approach to the library's functions and responsibilities by both librarians and university administrators focus attention on their efficiency rather than on their effectiveness in adding to or detracting from the quality of teaching and research. Is there a problem of librarians constantly being forced onto the defensive about short term operational issues of efficiency as opposed to dealing with longer term strategic issues of institutional effectiveness?

1. ROLE IN TEACHING SUPPORT

The major question here might be, How is the university library to help improve the effectiveness and quality of undergraduate and graduate teaching? What role or roles does it, and can it, play in the "quality" debate?

- Teaching support is the library's bread-and-butter role. It represents the bulk of any university library's business and involves a significant commitment of and drain on resources.
  Problem of developing and keeping up special collections eg. A/V material, and routine services related to reserve collections, photocopying, etc. Impact on the quality of teaching of inadequate support at this level. What is the potential of the new technology here?
- Issues of collections, facilities and staffing related to making the library, or improving its role as, an effective "learning" environment within which most students will spend a large proportion of their time.
- Instructional role of librarians in "information" literacy, "literature searching," "information management" and other library/information programs of a direct instructional nature.
  Implications for relationship with academic staff and integration of such programs into formal academic programs.
- Problem of effective and flexible response to rapid and usually unpredictable change in instructional requirements reflecting changing institutional or government objectives such as:
  increasing internationalisation both in student recruitment and in content of academic programs
  the general increase in the size of the student bodies to be serviced
  access and equity issues for minority and under-represented groups and government policies with regard to them.

2. RESEARCH SUPPORT

There is a tension between "local" and immediate research support that requires the identification of and response to present and emerging needs and long term collection development that anticipates future needs. To what extent are current collection inadequacies a result of past collecting failures locally and nationally? How are we to build appropriate research collections and services in an environment characterised among other things by rapidly changing technology, relatively unstable and interventionist government policies and funding patterns focussed on the short term?

- Can the nature and extent of the contribution of libraries to meeting institutional and national research goals and their importance in strategies to heighten research productivity be effectively established? Particularly important here is establishing negative impacts that may arise from various resource allocation decisions either in the library itself or the university administration.

- Implications of changing patterns of research and research funding in relation to national priorities and currently fashionable areas of research interest; general decline of interest and support for research in the humanistic disciplines.
  The problems of cross-sectoral, multi-institutional instructional and research programs (eg. ATAX and Cooperative Research Centres) and the allocation of funding for library resources in support of such programs
- Changing systems of scholarly communication that bypass the library in some respects, especially by providing direct access to online sources of professional and research information and research data of various kinds.
  Increasing interactions, especially at the international level, that result from this same process and their impact on demand for services and materials through the library
- Contribution of individual libraries in support of institutional and government research priorities and in helping to meet national objectives of the government for the higher educational system, especially in the area of science and technology now that CSIRO no longer plays a de facto national library role in these areas and the National Library of Australia itself has limited its commitment to them.
  Identification of research strengths, cooperative agreements for collection development, and participation in the distributed national collection
  Interlibrary loan and other networks, especially the Australian Bibliographic Network (ABN), which operationalise the idea of a distributed national collection. To what extent are the distributed national collection and these networks to be relied on to replace what individual libraries can no longer do as opposed to complementing what they must continue to do?
  Problem of cut backs in "local" collections and services effectively degrading the national system by the reduction of what is available through it
- International responsibilities of individual libraries within the research community for document supply and in other ways.
- Implications of present fiscal and technological developments for the archival function of the university library as expressed in special collections of rare, fragile and other "difficult" materials, such as personal and corporate papers, the primary purpose of which is for research.
- The problem of physical deterioration of research collections and the need for preservation strategies and cost/effective conservation techniques both at the local level and nationally.
- Improving liaison with academic staff. The need for processes and structures for consultation and general communication that are more effective than now, especially in planning for the near future.

3 COMMUNITY SERVICE

To what extent and how should the library interact with the general community of which the university is a part?

- Generation of external funds through donations, endowments and provision of revenue producing services to business and industry.

How do initiatives of this sort conflict with or complement the other roles of the library? How do they relate to the university's fund raising and other development strategies aimed at alumni and the business community?

4 CENTRES OF INNOVATION

Given the nature of the pressures on them, can libraries become centres of technological and managerial innovation? If so, how are they best to express and capitalise on this role?

- New services based on new formats of collections and the local, national and international networks of which the libraries are part? Redefining relationships with a variety of client groups? The role of information technology.
- Blurring of roles of information support functions in the university as expressed in the computer centre, instructional media centre and the library?
  Strategic role of the Internet in exploring possibilities for innovations in service.

Managing the University Library of the Future

To what extent must we conceptualise the university library of the present and the future as a centre for the rapid transfer of information utilising the latest technological advances, rather than seeing it as a holding station or warehouse? What are the managerial implications of a gradually diminishing recurrent funding base for what has to be done and how ? To what extent are entrepreneurial flair and ability to take risks important for university librarians in their efforts to redefine the functions and activities of the library and in technological innovation?

1. LOCAL INSTITUTIONAL RESPONSIBILITIES

How is the library to be managed in such a way that it can respond effectively to the various limitations and demands to which it is subject?

- The central problem is the university library's budget and the determination of effective strategies to ensure that the budget allows the library to help realise the institution's objectives. These involve teaching and research and related national and international ambitions for its profile or standing in the broader community of higher education and in society more generally.
  The development and application of key performance measures for collections, services and staff
  Creation of management information systems that will provide better data for decision-making internally to the library and for more effective representation of its achievements and needs to the university power structure
- The need for the full utilisation of human resources through programs of staff development, training and retraining as part of the management of change.
  Changes in conditions of employment arising from, for example, award restructuring and enterprise bargaining
  Regular training to upgrade professional skills to take advantage of new capabilities as these become available through computer-based systems, sources and services
- Organisational restructuring as a process for ensuring greater effectiveness of

functions internally and to help ensure that the library's position and influence within the parent institution is maintained and extended.
A process to help deal with the effects of budget limitations
A process to determine the services and collection development responsibilities that will be dropped or curtailed because of institutional priorities, fiscal constraints and as technology opens up new possibilities — everything cannot be done!

- The role of the university librarian in the structure of influence and formal decisionmaking in the University, for example, librarians as functionally part of the academic/administrative structure. The need for information to be exchanged in a politically and strategically effective way between academic, administrative, and library leaders.

2. EXTERNAL RESPONSIBILITIES

How is the library community to develop the personnel and technical resources and support needed to increase the effectiveness of university library services both locally and nationally?

- Issues of recruitment and the education and training of librarians and other professional and technical staff.
- The related problem of the profession's research infrastructure and the completion of important research in the schools of library and information studies. The difficulties of creating better understanding between the schools and senior library staff of their respective roles and functions
- Issues of managerial development and succession planning.
- Technical matters related to the development, monitoring and revision of policies and technical standards for national systems and networks.
- Lobbying for support within government and achieving effective representation on government and other bodies for expressing the needs and potential of university library service in relation to the missions of these bodies.
  Value of nationally determined policies and position papers on various questions before government, the AVCC, etc
- Importance of access to competitive research and development funds for innovative programs, to support special infrastructure needs and for research into library-based problems or problems with important implications for libraries (eg. patterns of scientific and scholarly communication and information seeking and use behaviour).

New Technology

The implications of rapid change in the capacity, cost and increasing availability of new storage media and computer-based networks and telecommunications systems are of great concern. Historically early to anticipate the benefits of various new technologies as they emerged (microfilm, punched cards, the early mainframe computers, minicomputers etc), librarians are now recognising that they have to devise strategies for continuously up-grading or replacing systems in order to be ready to take advantage of new developments as these become commercially viable. Major developments whose implications for the library's collections, services and tools are only now being explored are CD-ROMs, image capturing and transfer systems and internationally available networked communications (eg Internet).

GENERAL ISSUES

Among general issues of vital importance are:

- The difficulty of realistically assessing what is currently feasible.
- Developing strategies to anticipate and monitor change and development that are occurring in the "industry."
- Developing management strategies to deal with what is required to implement change effectively in terms of infrastructure, equipment and staff training.
- The problem of entrenched attitudes and patterns of behaviour both of clients and staff and of anticipating and dealing effectively and sympathetically with the likely impact of technological changes on them.
- Estimating costs in the present and in the short term and developing strategies to meet them.
- The problem of developing an appropriate technological infrastructure and effective staff support of the services and systems that depend on it.

  Striking an effective balance between the costs and benefits of participation in international, national and regional networks and what is foregone in terms of services and collections at the local level because of the costs of such participation.

ELECTRONIC LIBRARY

Managing collections that are becoming extremely complex in terms of the increasingly varied range of formats in which information resources are becoming available and their cost. Is there an appropriate balance between print and electronic formats? How could such a balance be determined and under what conditions might it change?

- Problems in the longer term of changing technology confronting libraries with the replacement or conversion of formats, especially likely with electronically-held materials but also will involve microfilm and the conversion for preservation or for access purposes of paper materials.
- Statistics of electronic publishing of sources available online or in CD-ROM formats versus print publishing — what is the present status and the future of the book or paper-based collections?
- What is the extent and how best to deal with problems of ownership of data and restrictions on access arising from publishers licensing agreement and copyright?
- What is the potential of using new image and storage technology in the management of the library's existing special collections or for special services, eg conversion of reserve reading collections to networked CD-ROMs or issued as a set of "Smart" cards.
- How are value, cost and potential viability of the "electronic" library to be

determined? How will the self-use capacity of such libraries vary in relation to individual types of "information consumer" and how well will the libraries respond differentially to the needs of various disciplines.

What are the intermediate or transitional stages that we must move through and which must be planned for before the electronic library can become a reality?

How is this developmental process to be funded and by whom?

How must academic staff be involved in the changes and what will the impact of the changes be on their research needs and their capacity to meet those needs either through the library or independently of it?

There is a huge problem arising from the seductiveness of technological speculation and anticipation. How are we to ensure that unrealistic expectations of technological development as providing a relatively cheap and, once systems are implemented, rapid panacea for library problems, are effectively dissipated. Conversely, how can we ensure that realistic technological changes that will enable the library to fulfil better traditional and still basic functions, as well as allowing it to begin to do some of the things that had not been possible before, are properly understood, convincingly described and irresistibly promoted?

Commonwealth Government Policy And Reports On Higher Education: An Overview For Libraries

Stephen Oakshott

The aims of this paper are:

- To provide an overview of the main government policy areas and to consider how such policy might impact on the future development of libraries in higher education,
- To see to what extent libraries feature in key government higher education reports; and,
- To consider where and how libraries should concentrate their effort in order to gain more recognition and resources in the post-Dawkins environment.

Parts 1 and 2 examine Government policy statements and reports, as well as responses from various sector interest groups, as a way of drawing together major policy issues and elaborating on some of their consequences. By examining how far libraries feature, or do not feature, in key government reports, Part 3 of the paper suggests what impact higher education policy might have on the future development of libraries and how politicians, academics and other groups perceive the role of libraries in the teaching , learning and research process.

Towards the end of Part 3 attention is drawn towards the degree to which the academic library profession appears to be responding to Government policy initiatives. The main thrust of the paper, however, is with how libraries and librarians are dealt with in the major policies outlined in the various reports. It is much less concerned with the detail of library programs and developments themselves.

Since the release by the Minister for Education, Mr Dawkins, of the 1987 Green Paper, *Higher Education: a Policy Discussion Paper* and the 1988 White Paper, *Higher Education: a Policy Statement,* tremendous changes have occurred across the sector in areas like system expansion, performance based funding, equity and access and the linking of education with economic recovery. Two major policy trends have emerged as a result of the Green and White Paper reforms to the Australian higher education sector. These are the expansion of the system and the devolution of the responsibility for system quality and performance to individual institutions.

Part 1: Funding and the Expanded System

An expansion of the higher education sector combined with diminishing levels of real funding from government has resulted in more competition for scarce resources between departments and divisions at institution level, and between universities (and now TAFE) at system level. This trend has been accompanied by claims of a general deterioration in the quality of education provision.

Since the release of the Green Paper on higher education — a document that marked the turning point in Government higher education policy — the sector has continued to be viewed as a servant of national economic policy. Its function is to generate a skilled workforce that is able to adapt to a changing workplace, especially in times of recession. In the words of the author of the Green Paper and the White Paper, former Minister for Employment, Education and Training, John Dawkins,

> The society we want cannot be achieved without a strong economic base. In Australia, this now requires a greatly increased export income, a far more favourable balance of trade than at present and a considerable reduction in our external debt. It also requires a shift in the traditional profile of our economic activity. Our industry is increasingly faced with rapidly changing international markets in which success depends on, among other things, the conceptual, creative and technical skills of the labour force, the ability to innovate and be entrepreneurial. (White Paper, 1988, p. 6)

In the very latest triennium report the Government has said that it is still "committed to increasing participation at all levels of post-secondary education and training to help realise national economic and social objectives." (92-94 Triennium, 1991, p. 3).

Given the level of national significance attached to higher education, the Government has simultaneously re-structured and expanded the system within a relatively short time frame, amid claims of insufficient funding to support these developments. Within the period 1989 to 1993 the Government says it will have provided in excess of 70,000 additional higher education places, with 1993 funded places totalling 11,000. (91-93 Triennium, 1991, p. 1). This gives some idea of the scale of expansion.

Although expansion has brought with it a Government commitment to provide more financial assistance, recurrent funding has not to date increased in proportion to enrolments. The consequences of this have been widely reported in the press. "Those universities which have built up substantial infrastructures to support scholarship and research are finding it increasingly difficult to maintain them, let alone expand them in proportion to their capacity to undertake advanced work" (Karmel, 1991, p. 12).

Professor Karmel, an experienced commentator and former chair of higher education statutory authorities, sums up this recent period in the following way,

> The manner in which higher education was managed over the period 1974-87 might reasonably be described as central government funding with light regulation... During the past four years intervention has become heavier and the institutions have been seen by the Commonwealth as subservient to government policies. Despite the advantages flowing from greater funding and more competition among institutions, the net effect has, in my view, involved significant damage. (Karmel, 1991, p. 12)

Funding Levelling One result of the reform process initiated by Dawkins was the amalgamation of smaller institutions with larger ones or ones of similar size with a view to generating greater economies of scale and to create larger institutions with a broader range of educational offerings than was the case before. With the abolition of the binary divide those institutions which formed part of the now defunct College of Advanced Education sector found themselves at a distinct disadvantage when they entered the new unified national system. They had fewer resources and possessed little in the way of infrastructure compared to the established universities with which they were now expected to compete on equal terms.

In order to correct this imbalance the Government established a Relative Funding Model which, in recognition of the fact that "significant distortions existed in the base allocation of Commonwealth higher education grants", sought to provide "a more equitable distribution of base funding in the new unified national system". (91-93 Triennium, 1991, p. 11). The practice of levelling out funding is reported to have channelled funds into the former Colleges of dvanced Education and other smaller institutions to the detriment of the larger pre-1987 universities.

This, combined with the highly publicised practice of 'clawing back' operating grants to support competitively distributed Australian Research Council funds, is alleged over time to have also reduced the ability of pre-1987 institutions in particular to provide on-going support for teaching and research infrastructure, including libraries.

Despite Government claims to the contrary, there are many who believe that the reform process is producing a 'uniform' system of higher education provision with uniform standards. Many believe that this levelling out process threatens Australia's ability to compete in the world market. The following two quotes are indicative of the level of feeling on the subject,

> Resources have been allocated to institutions within the unified national system on a more equal basis... It is strange that a country, which promotes gold medal performance among its sportspersons by devoting considerable pressures to an elite, should, as a matter of principle, be opposed to promoting gold medal universities. There remains a good deal of differentiation among institutions; for example, only nine or 10 universities could claim to have significant research libraries... The health of higher education in Australia requires at least the maintenance and preferably the expansion of this differentiation. Unfortunately, present tendencies are toward more equality in both inputs and outcomes. How the quality of the research libraries and other scholarly infra-structure can be maintained in the face of the levelling that is taking place must be of major concern. (Karmel 1991, p. 11)
>
> The country will have to face reality and decide, in a quite elitist way, I'm afraid, who is going to get the scarce research dollars...We need to concentrate our efforts in those areas where we are likely to succeed and those where, with judicious collaboration, we can succeed together rather than fail separately. This is not the time for experimenting with equality of opportunity in research unless we want to achieve equality of outcomes — nothing spread evenly across the country... The University of Canberra, perhaps sensing the madness of trying to compete with the ANU in research, has decided that it will become the best teaching university in the country. (Massaro, 1991, p.2).

Another Government strategy which will have some significant bearing on the distribution of funds is the proposed expansion of the TAFE sector. This development has occurred as a result of reports like *Australia reconstructed* (1988), by the Australian Council of Trade Unions and the Finn report (1991) on post-compulsory education and training. Business and industry interest groups have argued that the "massive increase in demand for higher education has gotten out of hand, that higher education is producing more graduates than Australia needs, that industry needs more vocational and skills training." (Webb, 1992, p. 8)

The Strategic Imperatives Committee, comprised of leading engineers, technologists and business people;

> places a hefty share of the blame for Australia's economic malaise squarely at the feet of the education system, and particularly universities. It argues that universities have been an expensive waste of taxpayers' money, failing to produce what they call a

> 'productive culture'. In calling for a reduction in the proportion of humanities and social science graduates, and a diversion of more top intellects into law, medicine and accounting, the committee doubtless would applaud the undergraduate curriculum taking on a more highly-vocational and economically-orientated character. (Hunter, 1992, p. 11)

What was once a state government concern has now attracted a great deal of attention from Canberra. Last year the Federal Government offered the states $100 million as a first step to re-building TAFE. There are some, including some Vice-Chancellors', who are worried that this amount of interest in vocational education and training will result in the diversion of funds away from higher education.

> While encouraging the expansion of TAFE into the provision of more post-secondary education, Australia cannot allow Finn to become the excuse to curb growth in the higher education sector by cutting funds there to pay for TAFE... The expansion in post-compulsory education should be undertaken with additional funding and any redistribution of resources away from higher education would limit the scope of education available to the community as a whole. (Ken McKinnon, Chair Australian Vice-Chancellors' Committee, quoted in Aubert, 1991, p. 2)

Overcrowding The pressure on resources and facilities generated by the levelling out process identified above has been further compounded by environmental factors. A depressed economy and the resultant shortage of jobs have led to increasing demands for higher education. This increase has in turn brought about widespread overcrowding throughout the sector, putting greater pressure on already over stretched university resources and services. During the earlier part of the 1990's there occurred a dramatic increase in transfer rates from secondary education and higher than expected retention rates within the sector. As a result, in 1991 universities exceeded funded student places by 23,000, or 6.6%. ("After all the changes", 1991)

Michael Bartos from the Federated Australian University Staff Associations (FAUSA) — the country's main academic union — believes that higher than expected intake levels and the subsequent overcrowding problems were more the result of misplaced Government policy than anything. Bartos claims that universities were encouraged to over-enrol believing that if they did not attract enough students they would receive less funds the following year. Many universities no doubt had in mind the prescribed benchmark student levels and graduate output targets outlined in the Green and White Papers (5000 EFTSU to qualify as a university and be guaranteed funding for teaching and specialised research activity; 8000 EFTSU to qualify for comprehensive funding across the fields of teaching and research; graduate output targets aimed at 125,000 per annum by the year 2000) (Gunn, 1990).

Heads of institutions have been widely accused of contributing to a general decline in system quality through poor management of the overcrowding problem. The present Minister for Higher Education, Peter Baldwin, has said that administrative inadequacies in universities have been a major cause of overcrowding. He cites as evidence the fact that thirteen institutions enrolled students as a result of third and fourth round offers when they had already filled their quotas.

Higher Education Round Table (HERT) campaigns have brought together students and academics protesting against the conduct of institutions as well as Government. Vice-Chancellors have been criticised for not allocating resources appropriately in response to this crisis. They have been accused by HERT of wasting scarce resources on "frivolous or private projects" such as "duck ponds, private chefs and chauffeurs [while] students are forced to sit in the aisles of overcrowded lecture theatres, study in hazardous laboratories and cope with under-resourced libraries and inadequate facilities." (West, 1990b)

Deterioration of Quality Whatever the causes, the Press has been full of examples of the consequences of these developments and the inadequacy of available funding to respond to the continuing demand for higher education places. "Previously, universities could be expected to provide such infrastructure resources out of their operating grants. But this could no longer be assumed because 'in-house support' for research had shrunk to a small fraction of its size in real terms compared with a decade ago". (West, 1990a)

University libraries are frequently used by the media to illustrate the impact of a general decline in quality; "the rundown of resources in university libraries in particular [has] interfered with the quality and rate of progress of Australian research." (West, 1991a)

Three quarters of respondents to a questionnaire by the Higher Education Fighting Fund — a group of Australian National University based academics — believe that their university has "slipped in standards, competence and integrity." "90 per cent think DEET's role in promoting teacher excellence in higher education is 'deleterious'.... Seventy-two per cent think amalgamation policies have had a deleterious contribution to performance". (Leech, 1991b)

The Government itself has come to acknowledge that there is a generally held view that system growth combined with resource shortages have led to a reduction in quality in a number of areas, including libraries. "Most of the concerns have related to the adequacy of resource inputs to match the scale of growth, with consequential effects on student-staff ratios and access to library materials and equipment..." (*Quality and diversity,* 1991, p. 29)

Increases to Government Funding Levels In the 1992-94 Triennium report the government insists it has "responded positively to these pressures on the system by providing additional resources outside the normal triennial funding process as well as substantial support for growth in 1994" (92-94 Triennium, 1991, p. 3). The triennium budget includes provision for "An additional $9.7m in operating grants rising to $26.4m in 1995 to assist enrolment growth over the next four years. The funds will support additional funded places, over and above the additional places previously allocated for 1992. This will bring total funding for higher education to almost $4.2 billion in 1992" (92-94 Triennium, 1991, p. 3). The budget statement also reports the availability of an additional $54.7m in capital funds "over and above the level already committed" to expedite refurbishment and the construction of new facilities. (92-94 Triennium, 1991, p. 4).

In the area of research the Government has announced an injection of extra funds to the tune of $3.4m in 1992, $11.6m in 1993, rising to a total of $16.9m in

1994. Part of the rationale behind this increase is to encourage a growth in research activity across the system. (92-94 Triennium, 1991, p. 4).

Deregulation The universities have also suggested strategies for increasing the level of funding available as a way of dealing with unmet demand for places and inadequate facilities. The Australian University Vice-Chancelors' Committee has suggested that students "who meet university entry standards but fail to qualify for a government-funded place be permitted to purchase one in competition with overseas students." Fees paid by these students would contribute to the capital infrastructure of universities. (Leech, 1991c)

In response to the report, *Higher Education: Quality and Diversity in the 1990s*, the Shadow Minister, Dr Kemp, makes the point that "the statement maintains the Government's grossly unfair policy under which some 15,000 full fee paying overseas students are admitted to Australian universities while tens of thousands of Australians are shut out. The Industry Commission in its recent report on exports of educational services says this is an inequity which must be urgently addressed." (Smith, 1992, p. 9)

The Federal Opposition's so called 'Fightback' policy advocates a market driven approach to higher education. In many ways it is similar to what the Vice-Chancellors' Committee has proposed. Under this policy an institution could run courses based on levels of demand and charge students accordingly. Institutions would then be able to allocate resources to areas of greatest need.

The Government objects to full fees for local students on the basis that it conflicts with their own equity policy. "The Government believes that there is a limit to the appropriate role of market mechanisms in higher education before public good benefit is compromised. Such proposals... would give preference to less qualified students with access to wealth over those without the resources to buy a place" (*Quality and Diversity*, 1991, p. 23). "Low income students would be effectively locked out of a range of the most prestigious career possibilities, to the detriment of Australia." (Juddery, 1991, p. 2)

Although charging full fees for local students at the undergraduate level is considered by some as a way of generating additional levels of income, especially for those smaller universities who are as yet unable to generate other non-government income, the Government has formally dismissed it as a funding option. "Under legislation, higher education institutions are prohibited from charging fees for undergraduate courses." (91-93 Triennium, 1991, p. 25)

Despite the present Government's position on full fees, there are many education experts who strongly believe, like Professor Karmel, that "Deregulation appears to be the next stage in the evolution of higher education in this country" (Karmel 1991, p. 12). In the meantime there are those larger, more established universities who are busy supplementing their non-governmental income to a significant degree. For instance, Professor John Niland — Vice-Chancellor Elect of the University of New South Wales — has reported that his university is currently 37% funded from private sources. By the end of the year 2000 this is expected to rise to 50% (Juddery, 1992a, p. 2).

Part 2: Institutional Responsibility For System Quality

Will these impending strategies for expanding Government and non-Government financial options be used to redress declining quality in areas like libraries over the next period? In thinking about an answer to this question, we must take into account another emerging trend in Australian higher education. An overview of Government reports suggests an increasing emphasis on the devolution of responsibility for maintaining sector quality to the level of individual institutions. It is they who now have the major responsibility for distributing funds internally. However as long as institutions remain dependent on governments for the bulk of their funds, they will continue to be faced with the difficult task of balancing Government priorities with their own mission within the context of limited financial assistance.

National Priorities and the Economic Imperative In 1987 the then Minister for Employment, Education and Training, John Dawkins, outlined his blueprint for a new 'unified national system', the ultimate purpose of which was to create a "balanced system of high quality institutions, each with its particular areas of strength and specialisation but co-ordinated in such a way as to provide a comprehensive range of higher education offerings. Diversity and quality are paramount..." (White Paper, 1988, p. 28). This 'national' system was founded on the notion that an institution's real value is measured by the extent to which its activities reflect those areas which the Government deems to be in the 'national' interest.

In an interview with *Australian Campus Review Weekly,* Dawkins said that he had "deliberately placed the word 'employment' first in his newly-amalgamated portfolio's title in 1987 'to emphasise that policies in education and training must be subordinate to the national economic imperative of achieving the optimal employment of our people...'" (Juddery, 1991, p. 2). In support of this position, the White Paper specifies that "processes and structures" be set in place;

> whereby administrators and others working in higher education institutions are able to take the necessary and often tough decisions to give their institutions the strength, vigour, and flexibility to grow and contribute to economic and social well-being and intellectual development of this country.... Academic leaders must be able to relate and respond to the national priorities which governments have a responsibility to determine, but not impose. (White Paper, 1988, p. 27)

Dawkins has since been critical of the way universities have avoided their responsibility to the tax paying public.

> Some commentators have even gone so far as to suggest that the relationship between government and academics ought to be something akin to that between patron and artist, where the patron financially supports the artist to undertake whatever creative pursuits the latter so chooses. But that sort of concept, devoid of acknowledgment of public accountability, could become the basis of a higher education system founded on the precepts of elitism; of selectivity; of uncritical support of existing and exclusive academic power bases and empires; and of restricted student participation and access. (Juddery, 1991, p. 2)

For a sector that is funded by Government to the tune of $5.4 billion, or one per cent of gross domestic product, Ministers find such a stance highly appropriate and easily justifiable in the face of allegations that Government intervention has led to an erosion of academic freedom. "There has to be public accountability," says Dawkins. "It is also legitimate for the Government to prioritise certain broad disciplinary area" (West, 1990a). The present Minister responsible for Higher Education, Peter Baldwin, reasserts this fundamental policy position in what has by now become familiar rhetoric. "I think it is legitimate given the fact that higher education is such a large entity now which absorbs a very large amount of Commonwealth funds and incorporates the former college sector..." ("After all the changes", 1991). The degree of emphasis placed on national priorities is reflected in the 1991-13 triennium statement where it was announced that approximately 60% of additional 1993 intakes will go to these areas. (91-93 Triennium, 1991, p. 21)

So, although one hears the Minister talk about the Government giving institutions more flexibility in terms of how they distribute their grants, this is qualified by frequent reference to particular "public accountability requirements." If institutions wish to be a part of the system and receive public monies, they must not only prove that they are capable of meeting the goals they set themselves but they must also prove they can meet government goals as well. They must do this as 'efficiently' as possible and at the same time produce high quality graduates.

Those, like Professor Peter Karmel (Chairman of the Board of the Australian National University Institute of the Arts), who object to this national priority approach reason that;

> individual institutions (whether public bodies or private businesses) know better how to run their affairs, indeed will run their affairs more efficiently than a central bureaucracy. They are able to determine their priorities in the light of external circumstances, world trends and the views of the government... As resources are absorbed in undertaking research, seeking research grants and managing research programs, in being entrepreneurial and in conforming with government guidelines on equity and internal management, fewer resources are available for undergraduate teaching. This applies in the old universities as well as in the new ones. (Karmel, 1991, p. 11)

It is argued by many that those areas that do not feature as priorities, in particular the Arts, Humanities and Social Sciences, are subject to decline as funds are diverted to areas like Science and Business Studies.

> In the five years to 1991, the proportion of arts students has dropped from 24.3 per cent of total enrolments to 22.7 per cent. Had numbers in the arts areas kept pace with overall expansion of the higher education system, the faculties could have expected an extra 10,000 students to enrol this year. Instead, faculties of business, science and law have been expanding at the expense of the arts. Since 1987, virtually half the growth in total student numbers had been concentrated in those areas. (Maslen, 1992a, p.4)

A large proportion of government sponsored reports are, not surprisingly devoted to these areas. For example, *Asia in Australian Higher Education* (Ingleson Report) links in directly with Government economic and cultural objectives.

> If Australians are to come to terms with their geopolitical location, and to manage their future as part of the Asian region, Asia literacy must be widespread... The study of Asia and its languages matters because we are Australians, located in a specific geopolitical environment and linked through trade, migration, investment and tourism to Asia in a way profoundly different from any other western country (Ingleson report, 1989, p. 13).

"There must be sustained growth in Asian language skills and knowledge of Asian countries," Ingleson says, if Australia wishes to reap the full benefits of economic ties with Asia.

The Review of the Teaching of Modern Languages in Higher Education (Leal Report) is another example of a report associated with the 'economic imperative.' It deals with "language needs in business, finance and industry through an analysis of exporting and of the situation in Australia. The link between export performance and language competence is established and the attitudes of a range of companies canvassed" (Leal report, 1991, p. vii).

System Quality Despite the fact that an institution's goals should reflect broader sector priorities as defined by the government, they are nevertheless at the same time 'free' to pursue their own goals. Both the Green and White Papers, and those policy statements and reports that have appeared since then, stress that staffing arrangements and the details of resource allocation are operational matters left to individual institutions. The intention seems to be to allow greater flexibility in determining courses and research at an institutional level. The cost of such autonomy is accountability, "which is the other side of the autonomy coin" *(Quality and diversity,* 1991, p. 31). The current Minister's policy statement, *Higher Education: Quality and Diversity in the 1990's,* deals with the issue centrally.

In all its activities, an institution has the responsibility for maintaining system quality. Further pressure is being placed on institutions following Baldwin's policy announcement that quality is now first on the list of Government national priority areas for 1992. 'Quality' has arguably become the most talked about subject in the field of higher education. At this stage of the debate most of the discussion is centred around fundamental issues like — How does one define quality? and How is it measured? A recently published Higher Education Council Discussion Paper is charged with examining the following aspects of quality;

- the characteristics of quality and its diversity in higher education;
- the relative importance of factors affecting quality, including student mix, teaching and research, in furthering the quality of higher education;
- the strategies that may be developed by Government and the higher education system to encourage, maintain and improve the quality of higher education; and the means by which changes in quality over time may be monitored and evaluated; and
- the nature of the relationship between resources and the quality of higher education. *(Quality of Higher Education,* 1992, p. 3)

One gets the impression that much more work has to be done in this area before the concept can be formally incorporated into mechanisms for system planning and analysis, let alone as a means by which funds may be offered more competitively. The Council itself admits that such discussions raise more questions than there are answers for. It says that even though a quality system is a desirable thing, "there is no framework, or set of ground rules, that allows outsiders (and even insiders) to evaluate what are sometimes the strongly held but divergent views of those with an interest in the system and a stake in the future." *(Quality of Higher Education,* 1992, p.3) At one point in the discussion quality is likened to love; "everyone knows what love is, can recognise it, can talk about it, but 'when we try to give a definition of it, we are standing with empty hands'". *(Quality of Higher Education,* 1992, p. 5-6). The almost inexplicable nature of the concept is also expressed "ministerially:" "quality is not a point on a map; nor is it a definable mark on a scale... quality cannot be 'attained', it can only be enhanced or lessened" *(Quality and Diversity,* 1991, p. 25).

One thing that is certain, however, is the Government's resolve to have a quality system derived from 'good institutional management practices'. By providing institutions with funds "on a more predictable and flexible basis" and with "wider discretion" in terms of how these funds are used, Government puts the onus of achieving quality back onto the institution. For the Government, the maintenance of quality is ultimately an institutional responsibility. Statements such as "Those who contribute to the costs of higher education have an interest in ensuring that the system offers value for money" and "It is primarily a matter for institutions to satisfy the various stakeholders" *(Quality and Diversity,* 1991, p. 29), suggest how the Government can argue that if quality falls then it is largely the fault of those who are responsible for managing the institutions. It is then up to each institution to put in place mechanisms that will ensure that quality is maintained. "As self-governing bodies, institutions have the major responsibility for ensuring that the teaching process, their research efforts and their graduates are of high quality" *(Quality and Diversity,* 1991, p. 29)

The government calls such an approach "innovative". "It is based primarily on self assessment by institutions rather than relying on external assessments of quality. It relates the monitoring of quality to the goals of individual institutions.." *(Quality and Diversity,* 1991, p. 29). It is up to each institution to "define what they mean by quality and standards of performance against their own objectives". Reports like the *Performance Indicators in Higher Education* are then viewed as 'self-assessment' tools. They offer a range of performance indicators "from which institutions can select what is relevant and appropriate to measuring achievement of their goals, according to their individual mission" *(Quality and Diversity,* 1991, p. 31).

The government says that it has "no intention of prescribing performance indicators to be used by institutions" (Quality and Diversity, 1991, p. 32). Here the Government gives the impression that its role is to guide and support the process rather to force institutions to comply with Government policy. Government reports, of which Baldwin's policy statement, *Higher Education : Quality and Diversity in the 1990's,* is typical, are full of non-coercive language like "foster," "supporting"(p. 30), "no intention of prescribing," "assisting," "encourage and reward" (p. 32), "act as a catalyst" (p. 33).

The Government seems to be, at a political level, distancing itself somewhat from responsibility for system quality. Because it is up to each university to distribute and manage its own budget, the Government does not consider itself to blame if the institution fails to do so in the most efficient and effective way possible. This approach has been challenged on many occasions, particularly by representatives of the Humanities and other groups whose disciplines do not feature as national priorities. At a Fabian Society conference "Mr Dawkins said that he was tired of the 'Canberra alibi', and argued that the Government merely granted funds to universities, which were able to make allocations to individual discipline areas..." In response Mr Race Mathews, the Society president, argued that there was,

> justification for the view, held by many, that the humanities were being starved of funds both by government and by tertiary institutions. Despite Mr Dawkin's claims of neutrality, [Mathews] said, the Government was allowing the deterioration of staff levels in university humanities departments, library resources, research funds and accommodation. He pointed out that the White Paper had virtually nothing to say about a wide range of humanities subjects (West, 1990b).

In the words of one commentator; "If there is one word that springs to mind in describing Baldwin's policy statement, ***Quality and Diversity,*** it is 'clever'. Politically it is one of the smartest things a Government has done in higher education. It shifts resources, responsibility, and therefore political fallout back to an institutional level" (Smith, 1991a). The Government displays political adeptness by not committing itself to any particular set of performance indicators, a move which Smith has described as "a sidestep that our World Cup Rugby players would envy."

"Administrators are being asked to shoulder a large part of the burden of the system in years to come, something which no doubt warms the hearts of officials in DEET, who are probably heartily sick of copping flack for the ills of each institution." (Smith, 1991, p.9) The claim is then made that the Government is manoeuvring to distance itself from any responsibility for the quality of the sector by asking each institution to maintain its own quality accountability mechanisms. It also shifts this responsibility by asking the Higher Education Council to facilitate discussion on the subject. TThe Council is, in consultation with the various secto interest groups who are "independent of the Government," to define quality, and to have a group like the Australian Vice-Chancellors Committee and an organisation like the National Centre for Teaching Excellence monitor and administer the quality assessment programs *(Quality and Diversity,* 1991, p. 34).

The present Minister has made it clear that any future quality assurance process should be "separate from the Government's funding authority" *(Quality and Diversity,* 1991, p. 34). It has also been suggested that the current accent on quality is a ploy by Government to steer attention away from arguments that maintain that the difficulties currently being experienced across the sector can be remedied by higher levels of funding. As Baldwin has said,

> The debate has tended to focus excessively on resource issues such as average funding rates and staff-student ratios. While these are clearly relevant considerations, to single them out as sole indicators of teaching and research quality distorts the concept. Neither of these resources measures can be absolute measures of quality in the system partly because there are no optimum levels either for a discipline or the system as a whole, but more importantly because they relate only to limited aspects of quality. Quality is a function not only of the level of resources available but also of the way resources are used. *(Quality and Diversity,* 1991, p. 30)

Financial Rewards for Quality and Performance 'Performance indicators' are employed to assist in determining how adequately an institution or a unit within an institution has achieved its respective goals. The Linke Report points out,

> Performance appraisal in higher education has become a matter of increasing importance over the past twenty years or so throughout the developed world. The trend in Australia derives mainly from continuing pressures for expansion of higher education associated with general funding constraints.... there has emerged a persistent and

> increasing call for improved efficiency and public accountability in all aspects of higher education. (Linke Report, 1991, p. xi)

Funding allocation for the unified national system is based on a combination of institutional profiles and performance. A major reason for the current level of interest in performance indicators relates to this connection with funding provision. After all; "If performance indicators do not have a link between objectives and funding, they will tend to lose their value". (Hattie Report, 1991)

The institution that performs well and responds to national priority areas may be offered rewards as part of the Government's proposed quality assurance program. As the Minister, Mr Baldwin says, rewards will be offered to those institutions who make a "conscious and focused effort to improve their performance against their own institutional mission" ("After all the changes", 1991). Over $1m with be offered from the Reserve Fund from 1992. However from 1994 a total of $70 million will be offered annually over and above normal operating grants as part of this program. *(Quality and diversity,* 1991, p. 32 , 33) The ability of an institution to meet institutional and national goals will be determined by the application of performance indicators which will be "incorporated into the Commonwealth's general funding arrangements for higher education." Indicators "should cover such issues as student demand and course completion rates, quality of teaching and curriculum design, relative staffing provision and measures of academic staff performance in various aspects of research, publication, consultancy and other professional services" (White Paper, 1988, p. 86).

Given the complex nature of arguments dealing with quality and performance, and the fact that it is up to each institution to decide for itself how it defines quality, it will be interesting to see by what criteria quality is actually rewarded under the proposed Quality Assurance program. Important here could be advice from bodies like the Academic Standards Panel of the Australian Vice-Chancellors' Committee. Recommendation 4 of the Committee's Report for the 1992-94 Triennium asks that such a panel "be regarded by Government, professional associations and the community as an appropriate means of monitoring and maintaining quality within a range of courses and disciplines in Australian universities" (AVCC report, 1991, p. vi). The AVCC will have to be careful that it does not become a scapegoat for the Government. The Committee, however, is certainly aware of the inherent complexities of any assessment process. Recommendation 21 of the AVCC report suggests "that attention be drawn to the fact that, while performance indicators of various kinds may become very useful tools, they require sophisticated interpretation". (p. x)

Even though the government has signalled its intention not to use performance indicators as a prerequisite for the allocation of grants, there is a trend towards a closer link between the two. It may not be long before funding allocation becomes largely performance driven. This connection between performance and funding has led the Shadow Minister for Education, Dr Kemp to describe the Quality Assurance program as nothing more than a "slush fund to reward those who jump to the Government's tune" (Smith, 1991b, p.9). The Government is quick to stress that it will be up to "institutions to decide whether they want to participate in the program" *(Quality and Diversity,* 1991, p. 34). However, as with earlier so called 'voluntary' initiatives, such as when small institutions were 'invited' to amalgamate in order that they might be guaranteed continued government financial assistance, institutions do not — in practical terms — have any real choice but to participate. The availability of an extra $70 million is an offer too good to refuse at a time when every little bit counts.

Part 3: Centrality Of Libraries To The Educational Process

Where do all these political machinations leave libraries?

The truth is that relatively little attention is being given to libraries in the various reports and government policy statements. This lack of attention probably relates to a combination of a number of factors. It may have to do with a lack of participation by the profession in the various stages of the policy making process. It may also simply have to do with to the relatively large amounts of money that have to be spent on libraries year after year. It may be that governments and institutional managers see no tangible educational benefits from such large expenditure or that publicised library standards are deemed too unrealistic in an environment where there are many other competing demands for scarce dollars. No doubt there are numerous explanations that can be offered.

What is certain is that at this critical stage of sector development and renewal, when everybody is so preoccupied with satisfying demands by governments and university departments and units within the context of limited budgets, the profession should be taking every opportunity to prove its value in achieving key goals related to educational quality and performance. It can be argued that the overriding goal of the library manager in the 1990's should be to acquire the necessary managerial (and political) skills to convince those who allocate and distribute funds, of the centrality of libraries to the teaching, learning and research process. Government, institution managers, students, academics and other interest groups need to be continually made aware of the fact that high levels of academic performance cannot be achieved without libraries and that a quality system cannot exist without quality resource collections and services. As Parr has said, "A high standard of performance of staff and students alike is ***dependent*** on the provision of satisfying reader services and a first rate library collection" (Parr, 1980, p. 201)

The *Ross Review of Library Provision in Higher Education Institutions* has already done much to generate a level of awareness about the centrality of libraries. But has this report alone generated ***enough*** attention toward the plight of libraries in the 1990s? Very little Australian material has been published on this problem. Research into the promotion of libraries is said to be a low priority in library schools. (Ross Report, 1990, p. 89-91)

A few years ago a study by Hiscock revealed that a lack of recognition of the connection between libraries and academic performance related to "a degree of ignorance of what really happens in libraries and in the absence of research to investigate the relationship between use of libraries and academic performance." (Hiscock, 1986, p.207) This still seems to be the prevailing attitude in 1992.

Libraries and Institutional Goals A greater level of ongoing participation by the profession in the policy making process at the system level, especially in the formulation of goals and educational profiles, is required in the next phase of sector development. Above all else the Ross Report stresses the pivotal role senior university management perform in the development and maintenance of libraries; "... we take it as a central responsibility of university management to define what role it wishes its library to play in its total enterprise, to make appropriate decisions on the balance between acquisitions and services to readers, and to fund its library accordingly" (Ross Report, 1991, p. 22.) To this end chief librarians must seek to persuade senior management that libraries need to be included in an institutions statement of goals. "If librarians are, as we think is widely the case, excluded from the mainstream of institutional decision making, it could be said that this is partly at their choice" (Ross Report, 1990, p.24)

The Ross Report considers institutional profile negotiations as a point where library funding needs can be communicated, and that even though such statements "are not written in prescriptive detail, it is surely necessary that the library provisions required should be identified in the institutions' explanations of the support they will require to implement their approved profiles." (Ross Report, 1990, p. 17)

There now appears to be no reason for universities not to include libraries in strategic planning exercises. Aspects of accountability are now being determined in part through such exercises. The Government specifies that such planning should include a ***broad*** statement of institutional goals, ***detailed*** objectives for the institution's component parts and an analysis of the adequacy of current provision in view of an institutions goals and objectives. Other information should include mechanisms to achieve the required re-allocation of resources to make policy changes at each level of institutional decision making (White Paper, 1988). Such statements should emphasise, among other things, "the centrality of the library, given that information and knowledge are central to the attainment of any university's goals" (Ross Report, 1990, p. 76)

In support of this stance the Ross committee working party makes reference to a US document, directed at university administrators and academics, that shows how "libraries can be empowered to assist institutional goals in reforming teaching, improving research and enhancing service to the community" (Ross Report, 1990, p. 70 citing Breivik and Gee, 1989). In terms of the Australian higher education environment, the Ross report finds that although "A few institutions have already adopted a formal policy on their commitment to producing information literate graduates,... most have not" (Ross Report, 1990, p. 66) Until the significance of information skills in the teaching learning process is fully recognised by the academic teaching community then key value added services like "user education [are] likely to remain a useful, but limited addendum to the teaching program" (Ross Report, 1990, p.67 citing D. Reeder, 1984)

However, despite active encouragement by government that universities involve their staff in strategic planning, it is ultimately up to each university to decide for whether or not to initiate these sorts of activities. The Government has made it clear that it does not want to be seen to interfere directly with internal management processes.

Libraries and National Priority Areas One way of attracting increased recognition for libraries is to link library provision with areas identified by

Government as national priorities. Libraries feature in a few Government reports where the connection with information resource provision appears immediately obvious. Among these reports are ***Australia as an Information Society: Grasping New Paradigms*** (Jones I report). This report and a follow up report, sub-titled ***Libraries/Information Networking***, acknowledge the notion that information, and therefore libraries, have a central role to play in the future economic well-being and cultural enrichment of the national. "There is an urgent need for Australia to recognise the centrality of information as a central organising principle, a tool for understanding, and a vital element in trade expansion" (Jones I, 1991, p. xiii). Indeed the terms of reference of this report acknowledge that information is a "factor in employment, production and export", and sees "libraries as an area of national need and responsibility" (Jones I, 1991, p. v). "Governments must now grasp the significance of the growth of information, a major transforming factor, with a unique capacity to change work, personal performance, leisure and quality of life". The Jones Committee emphasises the connection between economic recovery and an information-based society in which the library performs a key storage and preservation role.

Asia in Australian Higher Education (Ingleson Report, 1989) is another example of a report where libraries are given due regard. In fact it is one of the few reports that highlight the degree to which the sorts of academic initiatives recommended in the report are accepted as being dependent on quality library support for their success: "Tertiary education and research are inconceivable without library support." Recommendation 26 of the Ingelson Report asks DEET to "initiate an investigation of the higher education library system, with special attention to improving document delivery services and to improving cooperation in collecting and cataloguing in the area of Asian studies". (p. 21) Another example is Recommendation 27: "We recommend that Universities provide special funds to their libraries or the employment of staff who can speed up the processing of the large backlog of Asian material" (p. 24) Such recommendations could apply equally to the needs of other disciplines.

In ***Widening our Horizons: report of the review of the teaching of modern languages in higher education*** (Leal Report), libraries have their own section under the heading of 'support structures.' This report's recommendations include a statement on the level of library support an institution should provide to establish new disciplines. Recommendation 56 urges that : "Universities and colleges ensure that an adequate library establishment grant be provided for each new language introduced. $40,000 should be considered as a bare minimum." (p. xvii)

Although these sorts of recommendations may be considered by some parts of university management as unrealistic and too prescriptive, they nonetheless provide university librarians with an independent source of support to add to their own arguments for more adequate levels of resource provision. Most of the reports that cover areas identified as national priorities, however, do not address the issue of libraries to any significant degree. Take as a prominent example the substantial two volume report, ***Performance Indicators in Higher Education*** (Linke Report). Despite the 'all-encompassing' title, this study and those that preceded it are restricted to areas "relating to staff at the department and faculty level, to students at the level of academic award, discipline group and field of study, and the costs and associated management issues at the level of ***academic organisational unit*** and institution" (p. xi).

The report examines three types of indicators;

- indicators of institutional context, including staff and student background, resource input and expenditure;
- indicators of institutional performance, including characteristics and outcomes of teaching and learning, and measures of academic staff achievement in research and professional services;
- indicators of participation and social equity, including representation of disadvantaged groups and range of course provision.

So called 'support' or 'service' units are allotted a subsidiary role as 'indicators of institutional context.' This type of indicator is applied, in the words of the Working Party, to "provide a measure of the various background or input characteristics which may influence institutional performance," but which do not in themselves "reflect institutional goals and cannot therefore be interpreted as measures of relative achievement. Rather their function is to aid the ***interpretation*** of the indicators relating directly to institutional goals so that judgements about relative performance can take into account the specific context of each institution" (p. 17).

Libraries are not treated as 'indicators of institutional performance' and are therefore presumably not deemed as having a direct bearing on the quality of the teaching and research process.

Libraries receive limited attention in the report. In fact they are only specifically mentioned in one out of the twelve indicators included under 'indicators of institutional context.' Indicator10: Distribution of Recurrent Income is a "composite indicator defined for each institution as a percentage of total recurrent income ... allocated to each of the following areas:"

- academic activities — teaching and research (including all costs directly associated with both undergraduate and postgraduate teaching together with associated general research activity);
- academic activities — research only (including costs associated specifically with research staff and related services);
- academic services (including library and computing services etc.);
- student services;
- general university services (including administration, general maintenance and overheads etc);
- public education and related services;
- independent operations (including student unions and residences, child care centres, research companies etc) (p. 46).

In another 'indicator of institutional context' — Indicator C2: Academic Support Staff Ratio (ASSR) — one might expect to see library staff included. However this indicator only relates to staff assigned directly to individual academic organisational units (AOUs) or central academic service units. That is, it is concerned with technical, administrative/clerical staff such as, presumably, laboratory assistants, secretarial support, research assistants and the like.

Another example of an absence of any connection between libraries and academic performance is the Course Experience Questionnaire (p. 56) discussed in this report. The Questionnaire, derived from Indicator P1 : Perceived Teaching Quality, is designed to measure student perceptions with regard to:

- general quality of teaching;
- clarity of goals;
- appropriateness of student workload;
- appropriateness of student assessment;
- emphasis on student independence.

None of the questions included in the Course Experience Questionnaire refer, either explicitly or implicitly, to issues associated with libraries or information literacy. The same can be said of the Hattie Report, ***An evaluation of a Model for Allocating Research Funds Across Departments Within a University Using Selected Indicators of Performance*** (1991). Here again libraries are not regarded as having a bearing on academic performance. The focus is on activity within the individual department, eg. publications, theses, research expenditure, national ranking, staff numbers etc. This report, like others that examine indicators, looks exclusively at academic staff because they are perceived as the only group that has any real impact on institutional performance. There is, however, nowhere any suggestion that research can be undertaken without library resources and associated services; they are, presumably simply taken for granted.

Library Funding This relative lack of consideration of the role of university libraries is reflected in the allocation of funds. It has been estimated that there has been a shortfall in tertiary library funding of around $3 million since 1987 in New South Wales alone (Jones II, 1991, p. 31). "The resources that institutions apply to their libraries from their recurrent funds and other income are determined by them, and when expressed as a proportion of their recurrent income vary considerably" (Ross Report, 1990, p. 15). Many have stressed major deficiencies in capital works provision. With the proposed integration of recurrent and capital grants institutions will have to take greater responsibility for determining budget priorities for capital works. Gone are the days when "the blame for a department not getting the building it wanted could be sheeted off to Canberra". (Smith, 1991a, p. 9). This clearly has great importance for libraries.

This shift in responsibility for financial management may have the greatest impact on the newer universities. Professor Ross (Ross Report), in an interview with the ***Australian***, highlights the need for institutions to pay more attention to supporting libraries when introducing new programs, particularly ex-Colleges of Advanced Education. "I don't see it as a problem in universities — there the high cost is a necessary part of supporting an information base. But the former colleges of advanced education have not appreciated the amount of resources necessary to get a viable library base" (Porter, 1991). Despite, Ross's demurrer, one might wonder how realistic the older, established universities are in determining library resources for new programs, especially if such programs involve Colleges of Advanced Education recently incorporated into them.

Another area of concern is the fact that research grants, including infrastructure grants via Mechanism B, are not flowing to any noticeable degree through to university libraries: "we believe that few institutions have not yet arrived at explicit policies on how much of infrastructure funding should reach the library and how it is expected to be used, and that the visible impact of the infrastructure funding on libraries' resources has so far been small" (Ross Report, 1990, p. 17). This issue is arising at a time when the Government is preparing to allocate an increasing number of places to postgraduate programs, particularly higher degree by research. "In 1993 17 per cent of the additional funded intakes will be allocated to higher degree by research places, with 27 per cent going to other postgraduate places and the remaining 56 per cent to undergraduate study" (91-93 Triennium, 1991, p.22). It is difficult to see how this user group can have access to quality library services when the Ross Report estimates that the cost of providing library support for each research student costs ten times as much as an undergraduate student.

Engaging in cooperative ventures may be a way for libraries to compensate for institutional prejudice and financial weakness. Libraries can apply for research infrastructure funds (Mechanism C) by teaming up with other institutions. "Former colleges are now expecting their libraries to support research in a wide range of areas. Available funding is not sufficient to enable all universities to maintain great libraries, and so cooperation in collection development and access is essential" (Neil Radford quoted in Leech, 1991a).

The Ross Report sets out strategies for pooling resources through the creation of cooperative stores, the extension of computer networks and document delivery systems, and the development of national collection development policies. Such ventures ought to receive reasonable attention from a government that promotes cost effective resource sharing activity. "Cooperative activity should result in improved services, lower costs, or preferably both" (Ross Report, 1991, p. 95).

An approach that features in many of the reports is one where recommended strategies involve rationalising existing processes or else have limited cost implications over and above that provided under existing funding mechanisms. (It is interesting to note that the Ross working party bases its whole submission on a series of recommendations that under the Committee's Terms of Reference had to be made "within the context of current resourcing levels" (p. xi). One of the main objectives of the Ross Report was the examination of "ways in which libraries could work more effectively together to achieve a more efficient higher education library system" (p. vi). Ingleson in the report on *Asia in Australian Higher Education* "see a systematic rationalisation of collection development as the most efficient means of providing tertiary education with resources of international standard. With a cooperative and rationalised acquisitions policy must go an efficient and inexpensive system of access and distribution" (Ingleson Report, 1989, p. 16).

As far as grants for research into libraries are concerned, library schools are unfortunately finding it difficult to attract Australian Research Council grants owing to their small size and the lack of research background of many staff (Ross Report, 1990, p. 89-91). The idea of collaborative research involving the library schools and the staff of the libraries has not been much explored. It is clear, however, that the schools have the potential expertise and academic motivations for the research that is needed while the libraries have resources, including support personnel, and the need. It makes sense for a fuller collaboration to emerge between the two groups than has been true in the past. Unfortunately there seems to be little general understanding of the synergies that might develop between the two and the level of "working at it" needed to make collaboration work (Rayward, 1983 and 1984).

Given that higher education institutions depend on government subsidies to survive, convincing the management of these institutions and the other interested bodies involved in the distribution of these funds of the inherent value of libraries and information services in the education process is essential if the profession is to compete effectively for scarce resources.

Putting Libraries on the Agenda It has previously been argued, in the context of Government higher education policy, that libraries have a direct qualitative impact on the teaching-learning process. During the formative years of the College of Advanced Education sector, the reports of the Commonwealth Advisory Committee on Advanced Education frequently acknowledged that there existed a direct connection between academic performance and "satisfactory reader services and a first rate library collection" (eg First Report, 1967-69, 6.10).

Consider these statements:

- Since the library contributes a central service for the institution as a whole, the deficiencies here inevitably affect the quality of the performance of staff and students alike" (First Report, 1967-69, 6.2).
- "[The Committee] is convinced that the library should occupy a position of central significance within the tertiary institution" (First Report, 6.10).
- [Library-based teaching programmes] "equip the student to keep up to date with his subject after he has finished his formal studies" (First Report, 6.18).
- "Graduates who do not know the range of services that a library can offer will be severely handicapped" (Second Report, 1969, 7.21).
- "[The quality of academic programmes] is "directly influenced by the standards of library provision of book stock, accommodation, and services." (Third Report, 1972, 5.2).

However despite the large amount of attention given to libraries in the early years, by 1975 the Committee no longer regarded them as a priority. In the 4th Report it was declared that no further special grants would be offered to libraries, instead they were told to look to their own institutions for funding.

Since issues like academic performance, quality, and alternative modes of teaching are again on the policy agenda, the profession must once more remind Governments and institutions alike of the centrality of libraries. The Green Paper and subsequent reports have placed significance on independent learning and associated concepts, although the link with libraries is rarely mentioned.

The Finn Report, which refers to credit transfer schemes and resource sharing with TAFE, has suggested up a special niche for tertiary libraries in this field. At the moment this report has the undivided attention of government. Kim Beazley, shortly after his appointment as Minister for Employment, Education and Training, stated that "The central issue of the day is the vocational education/training agenda" (Juddery, 1992b, p. 7). His predecessor, John Dawkins has insisted on the importance of adding the word 'capable' to the much-used phrase, the 'clever country.' He observed that "the cleverest country is not the one with the most PhDs per capita. It is the one with enough technicians as well as enough scientists, with skilful trades persons as well as exemplary teachers and academics" ("Dawkins...", 1991, p. 4).

The whole notion of competency-based training, which is at the centre of the Finn strategy, relates to self-managed learning. Libraries have a key role to play in this process. Unfortunately the report makes virtually no reference to the role of libraries, despite their obvious and significant connection with the report's central ideas.

How is the academic library profession responding to Finn and other government sponsored initiatives? What part are libraries playing in the sector's investigations into supplementing face to face teaching? What are the opportunities for libraries in areas like open learning where "self-instructional, self-paced materials of high quality are used in parallel with traditional face-to-face learning tutorial and laboratory methods"? How is the link between so called 'generic skills' and information provision best to be exploited by academic librarians? According to the Minister for Higher Education, Peter Baldwin, quality programs,

> will seek to measure generic skills that every graduate should have, such as decision-making, problem solving and communication skills. It will also look at the body of knowledge a graduate has acquired. This body of knowledge should provide the graduate with a discipline, be appropriate for the level of award and act as a vehicle for the inculcation of generic skills.... If an institution is able to take a student with multiple categories of disadvantage and raise that student up to the point of being a high quality graduate, that is an achievement we would value more highly than an institution which took relatively privileged students and got them to the same level of achievement ("After all the changes", 1991).

Groups like the Australian Library and Information Association (ALIA) and the Committee of Australian University Libraries (CAUL) have been actively attempting to highlight the centrality of libraries in the educational process generally. In a submission to the Ross working party, ALIA highlights — among other things — the critical role libraries play in information literacy; "The Association encourages the development of information literacy which underpins education and economic and social development." Reference is also made to the Information for the Nation, an ALIA campaign that was designed to "focus attention on the need for greater information literacy particularly in relation to industry development." The connection is made with lifelong learning which is an integral part of Government policy,

> The Association feels that all graduates of higher education institutions should be information literate. Besides literacy and numeracy, the Association includes in this concept computer literacy, literacy in finding information and the skills involved in staying abreast of developments within and affecting each person's discipline. It is not satisfactory that Australian graduates should continue to rely throughout their careers on what they learned at university: they must develop the skills to update, expand and change their knowledge bases as their careers progress (ALIA, 1991, p. 7-8).

The latest draft Constitution (1987) of CAUL has as one of its objectives "to lobby actively Australian federal, state and local governments and industry to obtain funding and other support necessary to achieve the aims of Australian Higher Education Libraries". In line with this objective, CAUL recently responded to the lack of consideration given to libraries in the Linke report by making the point that "As the competition for resources increases, it is important to be able to highlight the contribution which the library makes to the University's activities" (CAUL, 1987).

The recent establishment of an Australian Vice-Chancellor's Committee Library subcommittee, following a recommendation of the Ross Report, has the potential for marking a major turning point in the way libraries are perceived within the sector. It is yet to be seen to what degree the existence of such a committee will lead to increased recognition of the centrality of libraries. It is nevertheless encouraging to note that the AVCC has in the past defined a university as an institution that has "extensive library and information storage and retrieval resources" (Dawson, 1990, p. 15). More recently an AVCC draft code for university teaching referred to the importance of lifelong learning. In particular teachers are asked to "make sure that all resources needed for effective teaching and learning are available" ("Desiderata", 1991, p. 4). Whether the AVCC will now begin to make more explicit connections with the contribution libraries play in such processes again remains to be seen.

Conclusions This paper is intended to stimulate further discussion on the topics raised above. They are just some of the issues that require immediate attention as the profession enters a new and controversial period of sectorial transformation. It represents a point from which a more wide-ranging investigation might occur. In the light of developments across the sector, many notions of the profession's role and modus operandi require urgent reassessment. Greater awareness of, and participation in, the government higher education policy process is vital if tertiary libraries are to acquire in an increasingly competitive environment the funding needed to fulfil the educational potential of university libraries.

At a local level the increased responsibility of universities for system management and quality means that librarians need to articulate more sophisticated and persuasive reasons as to why libraries require adequate recognition and funding within their own institutions in relation to the contributions they can make to institutional goals and objectives. In an atmosphere where a great amount of competition exists between different parts of an institution, those who are unable or unwilling to show how they can contribute to the profile of the organisation, may be neglected or side-stepped. Attempting to understand fully the political environment through an ongoing examination of public debate on the role of higher education as reflected in the media and the various Department of Employment, Education and Training sponsored reports and investigations is a first step in devising new strategies for the future.

Annotated Listing of Selected Government Reports

Ingelson Report: Asian Studies Council, *Asia in Australian higher education, Report of the Enquiry* Canberra: The Council, 1989

> This report highlights the important role that Asian language education plays in developing cultural, political, social and economic links with Australia's northern neighbours. It outlines a reform package designed to move institutions away from the current 'Euro-centric' approach to education. Areas covered are — Employer demand, the state of Asian studies and language, the teaching of Asian languages, teacher education, and libraries and other information resources.

Finn Report: Australian Education Council Review Committee, *Young people's participation in the post-compulsory education and training : a report of the A.E.C.R.C.* Canberra: Australian Government Publishing Service, 1991.

The report states that a multi-skilled, creative, adaptable workforce is recognised internationally as contributing to successful work environments. The Committee emphasises the importance of vocational education and training as a means by which this overseas success can be replicated in Australia. The report outlines a strategy that builds on the existing role of TAFE. It advocates the introduction of key employment related competencies that will provide young people with the necessary skills to adapt to the constantly changing workplace. Areas identified are;

Language and communication,
Mathematics,
Scientific and technical understanding,
Cultural understanding,
Problem solving,
Personal and interpersonal characteristics.

The development of these competencies will be realised through higher levels of participation by young people in TAFE and through improved pathways between all levels of education provision. In particular the Committee recommends more formal links between TAFE and higher education via cooperative curriculum design initiatives, bridging arrangements, credit transfer and resource sharing.

AVCC Report: Australian Vice-Chancellors' Committee, *Foundations for the "Clever Country" : Report for the 1992-94 triennium.* The Committee: Canberra, 1991

This AVCC report is the first in a series of annual reports that set out the committee's position on higher education issues. "Such statements," the AVCC believes, are essential to the Government arriving at informed views during the process of adapting triennial funding targets and other policies." The report contains views and recommendations on system growth, staffing, teaching, research students matters (including deregulation) and funding allocation processes and needs.

Hattie Report: Dept. of Employment, Education and Training, *An Evaluation of a model for allocating funds across departments within a university using selected indicators of performance.* Evaluations and Investigations Program; A.G.P.S., Canberra, 1991.

This report develops for general use by institutions across Australia a University of Western Australia model for determining levels of academic performance.

Green Paper: Dept. of Employment, Education and Training, *Higher education: a policy discussion paper.* A.G.P.S.: Canberra, 1987.

White Paper: Dept. of Employment, Education and Training, *Higher education: a policy statement,* circulated by the Hon. J.S. Dawkins. A.G.P.S., Canberra, 1988.

The Green and the White Papers set out the governments broad strategy for the future development of Australia's higher education sector on which all subsequent reports are based. The Government's strategies include:

- Structural reform to place the higher education system in a stronger position to play its part in meeting Australia's changing social and economic needs
- A major expansion in student places to meet both a burgeoning community demand for access to higher education and a clear need for a more highly educated workforce in the years ahead, and,

- Guarantied and adequate funding for the system and new sources of funds to back up the funding commitment.

The reports describe the role and function of the newly created National Board of Employment, Education and Training and its various Councils, including the Higher Education Council. One of the early structural reforms resulting from these Papers was the abolition of the binary system that had hitherto separated Colleges of Advanced Education from Universities.

91-93 *Triennium:* *Higher education funding for the 1991-93 triennium,* [by] the Hon. P. J. Baldwin. Canberra: A.G.P.S. for the Dept. of Employment, Education and Training, 1991.

This report provides a detailed listing of institutional operating grants and capital funding for the triennium. It also outlines allocations to research and equity programs, National Priority areas and teaching infrastructure. The report describes the various methods used to allocate funding in an equitable basis including the use of a Relative Funding Model, performance indicators, and institutional profile negotiations.

92-94 *Triennium:* *Higher education funding for the 1992-94 triennium,* [by] the Hon. P.J. Baldwin. Canberra: A.G.P.S. for the Dept. of Employment, Education and Training Canberra, 1991.

Similar in format to 91-93 Triennium report, the report gives an update on initiatives identified in the previous triennium report and details of extra funding to accommodate further system growth. New initiatives that are announced include arrangements for quality assurance, a Joint Commonwealth/Industry Funded Additional Places Scheme, and Open Learning. National priorities for 1992 are listed as follows:

- Quality of teaching and learning
- Student access
- Links with industry
- Infrastructure support (includes provision for improvements to library services)

Quality and *Diversity:* *Higher education : quality and diversity in the 1990's, Policy statement by the Hon. Peter Baldwin.* Canberra, A.G.P.S for the .Dept. of Employment, Education and Training, 1991.

This report reviews:

- The impact on the sector, of reforms outlined in the Green and White Papers,
- New policy issues in particular equity of access and quality and diversity in higher education,
- The future directions of policy in the context of the role of higher education as a "foundation for our social, economic and cultural development in the 21st century" (p.v.)

This statement also provides the Government response to a number of reports, including the **AVCC report** and the **Linke report.**

Linke *Report:* *Performance indicators in higher education: Report of a trial evaluation study. Vol. 1, Report and recommendations; Vol. 2, Supplementary papers* Canberra: A.G.P.S. for the Dept. of Employment, Education and Training, 1991.

This report is the result of a study by the Performance Indicators Research Group. The aim of the report is to "develop and trial a broad range of qualitative indicators suitable for evaluating relative performance in higher education at both system and institutional levels and to report on their practicability, data requirements and appropriate conditions of use" (p. xi). The group sees the basic function of performance indicators as a mechanism or tool for assisting institutions and departments to achieve their respective goals. The limitations of indicators are also discussed.

Leal Report: Dept. of Employment, Education and Training, *Widening our horizons : Report of the review of the teaching of modern languages in Higher Education,* Canberra: A.G.P.S., 1991.

This is a draft DEET report. The review looked at the current situation of modern language teaching in Higher Education to develop or identify models to affect changes which may be necessary to meet Australia's changing language requirements.

Quality of Higher Education: Higher Education Council (Australia), *The quality of higher education: discussion papers.* Canberra: A.G.P.S., 1992.

This report was the result of a "perceived need to respond to concerns arising from within the higher education system" (p.iii). As the report is intended only as an initial exploration of the subject, the Higher Education Council limits the study to a general discussion on quality 'outcomes,' that is "the values that the higher education system might encourage and the qualities that it might instil in its graduates" (p. iii).The report is comprised of a series of discussion papers by the following sector interest groups.

- Higher Education Council
- National Union of Students
- Federated Australian University Staff Association
- Union of Australian College Academics
- Council of Australian Postgraduate Associations
- Australian Vice-Chancellors' Committee

Jones 1: House of Representatives, *Australia as an information society grasping new paradigms.* Report of the House of Representatives Standing Committee for Long Term Strategies. Canberra: A.G.P.S, 1991.

A report by the House of Representatives Standing Committee for Long Term Strategies set up to enquire and report on the development of a National Information Policy. Looks at

- equity and access to information;
- questions of personal privacy and national sovereignty,
- information as a factor in employment, production and export;
- the role and responsibilities of libraries and
- access by MP's (in government decision-making) to adequate information.

The Committee recommends that a National Information Policy cover a range of issues like the; right to know, industry, scientific and technological information, intellectual property law, transborder data flow, sovereignty, defence, telecommunications/media, media ownership and control, libraries, archives, social justice, privacy, education, information research, information statistics, promoting efficient/effective information use, promoting critical evaluation of information, consumer information and copyright.

A follow-up report (Jones 2) looks more specifically at libraries and information networks mainly with regard to Public Library provision.

Ross Report: *Library provision in higher Education institutions;* Commissioned report No. 7. Canberra: A.G.P.S. for the National Board of Employment, Education and Training, 1990.

The Ross Report covers a wide range of topics related to library provision in higher education:

- Service quality and library support for teaching and research activities
- Library cooperation

- Resource storage and access
- Library accommodation
- Information technology
- Performance indicators
- Library services to industry, business and community groups

Recommendations are presented "within the context of current resourcing levels".

Selected Bibliography

This is a selective bibliography mostly comprising commentary and media discussions. Some professional articles and other reports are included because of special reference in the body of the paper above.

"After all the changes" (1991), *The Australian*, 10 October.

Aubert, E. (1991), "AVCC proposes joint TAFE-uni courses in response to Finn", *Australian Campus Review Weekly*, 1, no.8, p. 2 .

Australian Library and Information Association (1991), *Submission to the Working Party to Review Library Provision in Higher Education*, [ALIA], Canberra.

Breivik, P. S. and Gee, E.G. (1989), *Information literacy : revolution in the library*, American Council on Education/Macmillan, New York.

Committee of Australian University Libraries (n.d.), *A briefing paper for CAUL on the implications of the report : performance indicators in Higher Education.*

Committee of Australian University Librarians (1987), *Draft Constitution*, University of Melbourne Library, Melbourne.

Commonwealth Advisory Committee on Advanced Education (1967-69), *First Report of the C.A.C.A.E.*, Govt. Pr., Canberra.

Commonwealth Advisory Committee on Advanced Education (1969), *Second Report of the C.A.C.A.E.*, Govt. Pr., Canberra.

Commonwealth Commission on Advanced Education (1972), *Third Report of the C. C. A.E.*, Govt. Pr., Canberra.

Commonwealth Commission on Advanced Education (1975), *Fourth Report of the C.C.A.E.*, Govt. Pr., Canberra.

"Dawkins urges more investment in TAFE" (1991), *Australian Campus Review Weekly*, 1, 9, 4.

Dawson, C. (1990), "Bureaucrats winning with UNIS: Kemp", *The Australian*, 18 August.

"Desiderata : what the good teacher practices" (1991), *Australian Campus Review, Weekly*, 1, 17, 4.

Gunn, M. et al.(1990), "Unis over-enrolled "in fight for funds", *The Australian*, 23 March.

Hiscock, J. E. (1986), "Does Library usage affect academic performance?", *Australian Academic and Research Libraries*, 17,no. 4, pp. 207-214?.

Hunter, S. (1992), "Getting the university brand right", *Australian Campus Review Weekly*, 2, no.13, p.11.

Juddery, B. (1992a), "Baldwin defends his stands on fees : UNSW's Niland rolls up his sleeves", *Australian Campus Review Weekly*, 2, no. 5, p. 2.

Juddery, B. (1992b), "Beazley and the big spender : setting priorities toward seamless education", *Australian Campus Review Weekly*, 2, no. 13, p. 7.

Juddery, B. (1991), "Dawkins attacks 'Fightback' on potential for control as Kemp changes ground", *Australian Campus Review Weekly*, 1, no.17, p. 2.

Leech, G. (1991a), "Libraries want $3m shuffle" *The Australian*, 13 February.

Leech, G. (1991b), "The staff answer back, loud and clear", *The Australian*, 3 August.

Leech, G. (1991c), "V C facing staff no-confidence vote", *The Australian*, 12 June.

Maslen, G. (1992), "Arts enrolment continues to suffer", Australian Campus Review Weekly, 2, no.5, p. 4.

Massaro, V. (1991), "Tomorrow's university — an owner's manual", *Australian Campus Review Weekly*, 1, no. 5, p.2.

"The 1991 Karmel report" (1991), *Australian Campus Review Weekly*, 1, no.18, pp. 11-12.

Parr, E. (1980), "Library service and their relevance to educational objectives", *Australian Academic and Research Libraries*, 11, no.3, pp. 200-207.

Porter, J. (1991), "Library costs a hidden trap for new campuses", *The Australian*, 21 August.

Rayward,W.Boyd (1983), "Librarians and Library Educators: Conflict, Inter-dependence, Mediocrity," *Library Journal* 108, pp. 1313-1317

Rayward, W. Boyd (1984) "The Problem of Connections: Education for and the Practice of Librarianship," *Journal of Librarianship* 16, pp. 151 — 169

Reeder, D.(1984), "User Education: historical development and current practice," *Australasian College Libraries*, 2, no.1,p. [12].

Smith, D.(1991a), "The clever statement that should keep higher education off the front page," *Australian Campus Review Weekly*, 1, no. 10, p. 9.

Smith, D. (1991b), "Funding : how to go to market — and win", *Australian Campus Review Weekly*, 1, no.16, p. 9.

"Standards for university libraries : evaluation of performance" (1989), *College and Research Libraries News*, September, pp. 679-691.

Webb, R. (1992), "Trends for the 90s : private unis, public schools", *Australian Campus Review Weekly*, 2, no. 10, p. 8.

West, W. (1991a), "Catching a ministerial ear", *The Australian*, 23 May.

West, W. (1991b), "The humanities strike out", *The Australian*, 24 August.

West, W. (1991c), "'$1bn cut' strangling our research", *The Australian*, 10 April.

West, W., (1991d), "Students declare war on vice-chancellors", *The Australian*, 14 August.

Print, Automated, Electronic: University Libraries in the Next Decade

Michael Buckland

This paper suggests how university libraries have been changing and how they appear likely to change in the future. It summarises a more extended discussion of these matters in *Redesigning Library Services: A Manifesto* that has just been issued by the American Library Association.

Assumptions The argument presented here reflects the following assumptions:

- There is a need for more attention to strategic planning, which we can distinguish from operational decisions and tactical moves. Strategic planning is commonly taken to be concerned with those decisions that will shape the development of an organisation over a three to ten year period. Alternatively we can think of strategic planning as being concerned with broader trends, with how we wish to evolve.
- Disproportionate attention has been paid to new information technology. It is not that too much attention has been paid to computing, data storage, and telecommunications, but, rather, that too little critical attention has been paid to the older information technologies of paper, card, and microfilm, to the style of library service we are accustomed to. What are we trying to improve upon?
- Although rhetoric about electronic libraries sounds unfamiliar and novel, librarians have considerable relevant experience, considerably more than is generally recognised.
- If you don't know what to do, it may be wise to retreat towards first principles.

Ends and Means University library service can be viewed as being founded on two bases: a role and a mission. The role of a library is to facilitate access to documents and the mission of a library is to support the mission of the institution (or population) served. The first of these statements stimulates us to ask how "facilitate," "access," and "document" should be interpreted and how the role of the library should relate to the role of the book trade, computing, and other services. The second statement means that the determination of what should be done is unique to each specific context. Further we need to distinguish between ends and means. We need to examine alternative means so that we know what our options are.

Discussion of ends and means also implies consideration not only of what is good and not so good, but also different kinds of goodness. "How good is it?" is a question concerning quality or, in effect, a question of capability with respect to serving some actual or imagined demand and relates to means. We may speak of "a good collection" or "a good bibliography." Output or performance measures are commonly of this type. "What good does it do?" is a different kind of question concerned with value and is appropriate to the evaluation of ends and to the relating of means to ends. What good do we wish to see achieved? Planning processes that concern themselves with which performance measures to use may be of this type.

The good news is that new means are becoming available. Modern library services were devised in the nineteenth century and have stayed relatively stable for a century. When means remain stable, the distinction between means and ends become blurred. More of the means is more of the ends. This is convenient, but a blurring of the difference between means and ends leaves one ill-prepared to deal with new means, if and when, as now, new means arise.

Paper, Automated and Electronic Libraries It is helpful to think in terms of three types of library:

- *The Paper Library:* Until recently the technical operations of libraries (eg purchasing, processing, cataloguing, and circulation) and library materials (primarily texts) were based on paper and cardboard. We call this the "Paper Library."
- *The Automated Library:* Over the past two decades, the technical operations of libraries have become based on computer technology while library materials still remain overwhelmingly on paper and paper-like media. This is the "Automated library."
- *The Electronic Library:* As of 1992 the increase in the amount and variety of materials becoming available in electronic form is quite dramatic. The prospect that library materials, as well as library operations, will increasingly be in electronic form indicates the emergence of a third form of library, the "Electronic Library." The concept of the Electronic Library is important because library materials will increasingly be in electronic form and, therefore, libraries will have to provide access to them.

These three ideal types have been isolated and defined as above for the sake of discussion. Any real library service is likely to be a combination.

Meanwhile a significant shift is occurring among the users of academic libraries. They, too, are making increased use of computers and electronic documents and data. To the extent that library users operate in a personal computing environment, they need to be served by an Automated Library or, better, an Electronic Library. Library use in the past could, perhaps, be caricatured as "come, read, think, and (maybe) write." But as library users adopt computer-based techniques and as their work habits become more complex, library service needs to be developed in parallel.

The Paper Library Features of computer-based operations and of electronic records that distinguish them from paper-based operations are that they allow use from a distance, multiple simultaneous users, and a variety of different forms of use (scanning, sorting, revising, reformatting, and so on). We should be clear about the problems that are characteristic of the Paper Library so that we can know what we should like to remedy. What are we trying to improve upon? A list of the problems characteristic of the Paper Library might include the following:

- The service is localised. Paper and reader have to be in the same place. This may seem a trivial and obvious observation but this one characteristic has dominated the design of library service.

- Paper Libraries have serious space problems. The nine campus University of California system, for example, needs some 19 kilometres of additional shelf space each year.
- Paper is a relatively inflexible medium. Paper documents do not lend themselves to revision or reformatting.
- In a Paper Library the catalogue is separate from the documents catalogued. Finding a catalogue card does not necessarily lead to finding the document.
- The users are separate from the library. They have to travel to it. Library use tends to be very sensitive to distance.
- Computers can be left unattended, but Paper Libraries have to be staffed whenever open. As a result, most Paper Libraries are, in fact, closed most of the time.
- A paper document can ordinarily be used by only one person at a time. However, the demand for documents is highly skewed. Some titles are more popular than others, so there is contention for the use of copies of documents. In academic libraries, studies have repeatedly shown that about six times out of ten a desired document is not found, usually because it is already in use (or, at least, out on loan). In other words, standard performance for the Paper Library is little better than 50% availability.
- Because of the distance to the collections and, in a large library, the separation of the documents from the catalogue, use of the Paper Library can be time-consuming.
- Paper Libraries have problems of scale. A library with a small collection can offer only limited service; a library with large collections provides more service but becomes less convenient because there are diseconomies of scale. The larger the collection of documents, the longer it takes to identify and find one.
- The universe of Paper Libraries is characterised by extreme geographic inequality. The provision of library service varies enormously from place to place.

The Automated Library The benefits brought by the Automated Library have been mainly for those who provide library service — increased effectiveness and comparative efficiency backstage. In addition, access to an online library catalogue brings the catalogue records closer to the user and there are interesting possibilities for linking catalogue records with online bibliographies. Otherwise, since the collections remain on paper, the Automated Library perpetuates the disadvantages of the Paper Library.

What, we can ask, have been the effects of the shift from the Paper Library to the Automated Library? My list would include:

- greater standardisation of data;
- remote access to files;
- cooperative use of files;
- fewer duplicative local files;
- access to multiple files from any point;
- the combining or linking of files;
- the ability to use records in more different ways; and
- increased technological vulnerability.

We can expect a continuing trend towards automation because unit costs for computing power, data storage, and telecommunications are all becoming cheaper relative to labour costs. Further, we can expect the high cost of housing library collections, approaching US$19 per volume in California for conventional stacks, to drive further change.

Online catalogues and bibliographic access

The online catalogue is, in itself, a very significant innovation. However, we can expect more far-reaching developments in bibliographic access to follow. Online catalogue records can, in principle, be linked with entries in online bibliographies and vice versa. In this way, items recorded in online bibliographies can have the locations of holdings linked to them. Thus bibliographies can serve as a dramatic enrichment of the catalogue, providing very detailed access to collections. Further, as networks become pervasive, the number of bibliographic files searchable from any work station anywhere becomes very large indeed.

The Electronic Library There is, currently, a very rapid increase in the number and variety of documents in electronic form in all subject areas. Electronic documents are not, like paper, inherently local. Remote access is feasible and, in effect, simultaneous use of documents is also possible.

What is to be done with electronic documents? The options seem straightforward: Store them in some suitable place, assign addresses, create a bibliographic description, and place entries in bibliographies and catalogues to ensure that the documents can be identified and located. There seems little alternative to what we have been accustomed to doing.

Even if one were to adhere resolutely to the idea that documents on paper were the most suitable form for reading, there are circumstances in which electronic documents are to be preferred. Electronic versions are preferable

- when the contents are volatile because they are more easily updated,
- when there is need to scan a document looking for specific words,
- when the document is at a distance, and
- when documents need to be shared with remote co-workers.

These exceptions can add up to a substantial proportion of use. And, of course, electronic documents can be reproduced on paper when that is desired.

The linking of online catalogues, online bibliographies, electronic documents, the users' work stations, and users' personal computing environments provides a basis for overcoming the separations that characterise the Paper Library.

Library Collections The selecting, collecting, and processing of library materials — collection development — dominate libraries' budgets and space requirements. The shift in the technological base for storing library materials from paper to electronic form invites reconsideration of library collection development policies. The roles of collections can be considered as fourfold:

- an archival or preservation role;
- a dispensing or document delivery role;
- a bibliographic role in that the classified array of documents on the shelves enables searching by subject and browsing; and

- a symbolic role in that collections can bring prestige.

Of these four roles, the dispensing role is of particular interest because, with paper documents, large local (and generally duplicative) collections are necessary for good library service. This one role accounts for most of the operating expenditures and most of the space needs of the Paper Library and of the Automated Library. But with electronic documents, storing a copy locally becomes optional rather than necessary. The dispensing role, therefore, which accounts for most of the expense, also appears to offer the greatest potential for innovation and cost avoidance in the move to the electronic library.

Library Changes The move to the Electronic Library implies some predictable changes in the character of library service:

- a shift in emphasis from cataloguing to bibliography;
- a change in collection development from a focus on local collections to cooperative network-wide collections;
- greater attention by librarians to users' (computer-based) work habits; and
- increased complexity as more resources become interconnected.

If the Electronic Library were to stimulate some of the demand for library service which is currently latent, then it is unlikely that there would be enough library staff to mediate it. A further shift from service to self-service in library provision is indicated.

Although the initial use of computers tends to be a mechanisation of existing procedures, mere substitution misses the point of technological change. Different technologies have different capabilities and different constraints. Sooner or later, redesign rather than a substitution is to be expected. Since there is no reason why we should expect paper to disappear, we can expect Automated Libraries and Electronic Libraries to continue indefinitely and for any actual library to become a combination — part Automated Library and part Electronic Library.

As these changes take place, we can expect changes in library organisation and governance, but since form should follow function, such changes should follow naturally from changes in the design of library services if we remain flexible.

Electronic Library Prospects Some consequences of moving to an Electronic Library appear to be predictable:

- greater standardisation of data;
- remote access to files;
- cooperative use of files;
- fewer duplicative local files;
- access to multiple files from any point;
- the combining or linking of files;
- the ability to use records in more different ways; and
- increased technological vulnerability.

It will be noted that this is the same as the list of consequences of moving from the Paper Library to the Automated Library. This is reassuring because it means that we have already had substantial experience in dealing with them. We can also add to this list the prospect of a dramatic reduction in the geographic inequality that has characterised library service hitherto. A foretaste of this can be seen in the emerging feasibility of searching in remote online library catalogues. In the Electronic Library we can expect changes in document access similar to the changes that have occurred in bibliographic access in the Automated library.

From Here to There As we face the prospect of moving to the Electronic Library, three precautions should be helpful:

- Research and development should not be confused. Research is a delegatable technical task of identifying what options are feasible. Innovation is a non-delegatable management responsibility for choosing which feasible options to adopt and when.
- Funding is likely to be provided to the extent to which library services are perceived to be effective, relevant, competently managed. "Marketing" among funders in the public sector is as relevant as marketing in a commercial situation.
- Remembering that technological change in libraries implies the redesign of library services.

Challenges Confronting University Libraries and Strategies for Response

K.R McKinnon

Continuing change in Australian higher education is inevitable and may well intensify during the remainder of this century. The nature and extent of change will depend on a complex and fluid interaction of political, economic and social forces. While it is impossible to make precise predictions of the future, past and present experience should provide sufficient basis on which to hypothesise a range of scenarios and to develop strategies to cope with them. Most universities have implemented strategic and tactical planning mechanisms, but these may not be sufficient to cope with the future. The Librarian of the University of Wollongong and I have been in steady dialogue over these challenges and the best ways to respond. It is these thoughts, mainly pushed by his excellent grasp of the future, that I want to share with you today.

Some Challenges The likely challenges to be faced in the foreseeable future will include:

- continuing attempts by federal government to achieve maximum benefit for each dollar of tax money given to universities;
- competition with the technical education sector for federal funding;
- increasing competition between institutions to attract students especially those who fund their education from non-government sources;
- greater emphasis on issues related to quality including performance indicators and competency in prescribed skills;
- use of a variety of computer and communication technologies to permit off-campus delivery of a range of learning resources and facilities;
- the need for institutions to maintain high levels of investment in the provision of information and the technology infrastructure needed to make it available.

To survive and prosper, Australian universities will need to welcome selectively appropriate change. Many of the attitudes and concepts which have governed academic life in the past may need to be re-assessed. Libraries and librarians have the potential to influence these processes but their involvement will not be a matter of course. Senior members of the library profession will have to demonstrate that they have clear and cohesive visions for the future and have the ability to provide strategies for the implementation of those visions.

Implications for the Role of Librarians Librarians are ideally placed to be major contributors to exert a positive influence on the process of change. Most are well-versed in the theoretical and practical aspects of the information industry, have been involved successfully with cooperative projects and have readily embraced those information technologies which are appropriate to their institutional needs. Most importantly, librarians have a service ethic which distinguishes them from some other providers of information.

Overall, the implications for libraries will be far-reaching. Academic librarians have always had a responsibility to ensure that members of the scholarly community had access to the information resources necessary to support teaching and research. This has never been an easy task but it has become more difficult as a result of changes in the nature and extent of scholarly publication, the application of new technologies and the emergence of radically different expectations of funding bodies.

The current debate on quality is focusing attention on various components of the educational process but there is yet to emerge a widespread appreciation of the role of information and the technologies which control it. Despite large investment in their libraries and in computing equipment, universities have been slow to develop cohesive information policies and to implement strategies for information management.

Emerging technologies promise the potential of better access to information and many users will be able to function without the intervention of librarians. This does not mean, however, that the need for libraries will disappear, but it will require a substantial re-evaluation of their operation and philosophy. Recent developments in information and communications technology require different attitudes, skills and organisational structures. There is a need to recast the mission of libraries to give greater emphasis to the provision of access to information and less to the acquisition of physical formats. Part of this change involves providing researchers with the ability to operate independently of the formal structure of libraries. Librarians will need to determine the extent to which they will become distributors, creators and repackagers of information. Central to this activity will be the development of effective strategic alliances with all other sectors of the information industry.

Commercial Publishers and Monopolistic Pricing Constant increase in the amount of published information has caused difficulties for libraries throughout the world. The cost of acquiring and storing print publications continues to rise but is rarely off-set by increased budgets. The major publishers now tend to be large commercial organisations often with interests other than publishing. In some sectors of the scholarly publishing industry, individual publishers have virtual monopolies which enabled them to dictate the prices charged for their publications. These corporations have recognised the potential of emergent technology and have moved to maintain their dominance of academic information. For some years they have insisted that authors assign their copyright to them as a pre-condition of publication. This assignment includes publication in whatever future format the publisher wishes to use. As a consequence, commercial publishers have gradually acquired a large corpus of data for which they have exclusive right of publication for decades to come.

At the same time, the emergent technologies have removed many of the restrictions associated with the formal publication process. Through AARNet, Australian scholars have access to a growing number of electronic publications and have the opportunity to disseminate their research without using print publications. Increasingly, research involves determining where the information is actually located, to whom access fees are due and in what format it is best accessed.

Although the trend toward the use of electronic formats frees many users from the need to rely on libraries or librarians, many more do not have the skills or other resources to permit access.

Libraries and Access What then will be the role of academic libraries in the future? For at least the next ten years, print material will continue to dominate the academic library although it may require less expenditure than at present. Increasingly, electronic formats will become more cost-effective and become the preferred means of accessing a diverse range of information. There will be a constant need to decide whether to acquire an information resource for inclusion in an institutional library collection, seek cooperative purchase with other institutions or to rely on access as the need arises and to pay for use.

The nature of these decisions will vary from institution to institution. The common elements will be a heavy dependence on technologists for the provision of software, hardware and communication networks which are reliable and easy to use, a need to ensure that staff and users have appropriate information literacy skills, and the development of a capacity to add value to the raw information. In association with computing professionals, librarians will need to develop mechanisms which permit the delivery of information tailored to the individual needs of researchers. This may involve strategies similar to the existing current awareness services but it will probably require libraries to be more involved in the process of publishing.

AVCC Standing Committee on Information Resources The Australian Vice-Chancellors' Committee has established a Standing Committee on Information Resources which will bring together representatives of the various elements of higher education responsible for the provision of information services or the control of information resources. The AARNet Board will report to the Vice-Chancellors' Committee through the chair of the Standing Committee. It is expected that there will be several sub-groups dealing with specific issues but the overall aim is to promote a greater synergy between those responsible for library, computer and management information services, and to develop national strategies which will enable Australian universities to make the best use of available resources.

The Standing Committee will provide a forum in which issues can be discussed and encourage support for projects of national interest. Many of these projects will involve substantial investment in equipment or skills which are beyond the resources of single institutions. Possible activities will include provision of access to electronic information and the negotiation of copyright arrangements. Although all university libraries will provide local access to a variety of databases, it is likely that a hierarchy of database facilities will develop. Large, expensive but infrequently used databases will be mounted nationally with access via a communications network such as AARNet. More frequently used, but still expensive, databases may be mounted several times throughout the country and accessed via AARNet or a similar network. Institutions will mount high-use, low-cost databases locally either on CD-ROM or similar technologies. At the lowest level, individuals will create their own databases tailored to their specific needs. With the advent of the one gigabyte plus hard disc, it is feasible for researchers to create extensive personal databases. It is conceivable also that on enrolment, students could be provided with a disc containing the basic information and readings relating to their courses.

An area most susceptible to collaboration between library and computing professionals will be in the development and maintenance of a facility which enables researchers to gain quick access to documents not held in their local library. Although interlibrary loan services have been in operation for decades, they are increasing unequal to the demands placed upon them. Some libraries are using American facilities such as Ariel and Uncover to improve their document delivery but these mechanisms are not completely suitable. There is a need to provide better access to Australian materials and to improve the use of existing print collections.

This type of facility, or improved versions, will replace print publications as the preferred means of disseminating knowledge about some areas of research activity. Whilst technology is available now to permit universities to assume a greater control over the publishing process and to lessen the intervention of commercial publishers, its adoption will depend on fundamental changes in attitudes held by many members of the academic community. In particular, to encourage increasing use of electronically stored information, it will be necessary to redefine the concept of publication as a criterion of academic performance.

Despite the considerable costs involved, commercial publishers are investigating similar concepts in order to protect their past investments and future earnings. Whether universities or commercial interests prevail, by the end of the century the bulk of academic publishing will be in electronic format rather than print. Suggestions that individual researchers will create databases of their own works and allow access via the Internet may prove viable in the short term and for some classes of information. Such databases will lack the prestige of authorised databases and will tend to be transitional. Individuals will be unable to afford the costs involved with maintaining these databases and will ultimately seek institutional support particularly for permanent archiving of their work and for the maintenance of standards governing the quality of data included.

The Challenge of an Electronic Future The future promises to be exciting and challenging for everyone involved in the provision of information services. Concerns that technology will replace make libraries obsolete will be realised only if librarians fail to meet the challenges presented to them. Whilst distinctions between existing sectors of the information infrastructure may become difficult to distinguish, the continual growth of information will ensure a need for human intervention in the information process. Service and user needs, rather than collection development, will dominate the future for university libraries. It should not be assumed that the need for print publications will cease but there will be a greater imperative to balance the acquisition of materials which have a lasting value to scholarship and the provision of services which facilitate access to current information.

As electronic formats become more common, there will be a need for high quality interaction between library staff and scholars. Failure to accommodate this requirement may result in scholars using support services other than those offered by the library. Most importantly, scholars will need appropriate training in information skills. It would be appropriate for librarians to be the major providers of this training and to work with academic staff to ensure that information literacy is included in the curriculum of every subject.

Nobody would be bold enough to predict the demise of university libraries as we now know them. Most of those currently employed in university libraries are likely to finish their careers in familiar surroundings. But the power of the new technologies and their speed of implementation in spheres other than universities means that the choice of learning and exploring the new, the choice of taking on new roles in a rapidly transforming profession, versus a decision which will result in being bypassed and becoming obsolete, is a real one.

Notes

1 ARIEL is a software package developed for the Research Libraries Group in America. It uses a scanner, 386 PC (80mb hard disk) and laser printer and enables images to to scanned and transmitted across the Internet. It provides a better image than fax. Wollongong and Macquarie have been testing its capability and hope to use it to transmit interlibrary loans both nationally and internationally.

2 UNCOVER is a database of citations to articles in journals held by libraries in Colorado — currently about 1.6 million citations from 10,000 journals. Access is provided through the Internet. Users are able to request full text of articles which are delivered within 24 hours. Wollongong is testing the efficiency of the service (articles cost US$20 plus delivered to Wollongong). There are some problems with search software but the overall concept is being considered for duplication in Australia.

DISCUSSION

Q. *Transitional finance:* As you have said we will have to support print based collections perhaps into the next decade, but at the same time, with budgets which in effect are declining in real terms, we have to invest heavily in software and hardware for computer based access. That is we are in a transitional period between the the traditional and the electronic library. How are our universities and their libraries to be assisted through the period of transitional finance that is required?

A. *University-Wide Information Coordination:* I think universities have been slow in bringing the information side of the university together with the library side. Both are in the trenches and one of these days somebody is going to grasp this and create a Deputy Vice Chancellor (Information Services). He or she will knock all heads together and make sure that the hardware and software are not provided out of the library budget but provided as part of the whole information infrastructure of the university. I think that, if the effort that is now going into teaching academics to get access to national and international databases could be seen as part of the whole process of information provision in the university, I don't think you would get the arguments about the budget that you do now.

Q. *Training:* This raises the question of providing the level of training needed for effective information skills — information literacy — and the enormous number of people that need this training. Where are the resources that are necessary for this to come from?

A. We all have to spend 2% of our budget on training, universities along with private industry. The way this money is spent in our place is the subject of a lot of debate. Most people think in terms of beginning pedagogy — how can I teach better. We may be doing people a favour if we went beyond this to deal with the issues that you raise. But there needs to be a strong alliance between all the information professionals, including the librarians, on campus about the need for this. Then there would be a fresh impetus. I repeat that I don't think that the total monies is as much a problem as re-organising the way money is spent in the whole university. I am not pretending that this is easy because of the way, at budget time, everybody defends bitterly his or her own patch. What I am suggesting is the need to redefine libraries and librarians from being an isolated service group on the side of the campus to being central to the whole function of the university and absorbing existing bits of everybody's budget so that they can realise a fresh vision rather than the old one with more money.

Q. ***What is Happening in the US — Budget Cuts and Campus Rationalisations:*** I have just wandered around America for the last 5 weeks and some of the developments I have become aware of are related to Professor McKinnon's paper. I heard the Vice Chancellor of the State University of California report that in some instances 80% budget cuts have been necessary. Some campuses of the system have closed down entire departments, for example rationalising engineering and chemistry. A significant number of the staff at the San Diego campus were literally out of jobs. The library was becoming a virtual library providing only on-demand items because, for example, the book vote was cut $1 million in one week. The Vice Chancellor of the system, commenting on the changes that will occur in library service, suggested that by the year 2000 each student will be given a digitised card with all their short loan material on it. They will also be given a credit card for on-line access. It is also clear from what I saw at Berkeley and Harvard that we have to begin redirecting our staffing in the larger research libraries. We need to ask: What are we doing? Who are we doing it for? How effective is the provision of information? Lifecycling costing comes into that. There is a lot of material sitting on the shelves, particularly in articles format, which is not being used. Related to this is a major study by the Physical Society which shows a very low citation usage in most of the Society's journals. If citations were the basis of subscriptions, on present trends there will be one subscriber by 2050 who will be paying $13.8m.

It also appears that academic staff are much more resilient in meeting the changes occurring in accessing information than librarians. Resistance to change is probably greatest in the middle and senior levels of the library staff. Where there has been an active reaching out in collaboration with the academic staff, as there has been, for example, at the University of Southern California, the status of the library is rising quite phenomenally. Here they are putting in systems providing full text information — the Chronicle of Higher Education, for example — which are listed on, and can be read from, the menu. Another development is what RLG is doing with research libraries. There will be dial-in access through the Internet to journals held in major subject collections. Articles will then be supplied and billed using RLG's ARIEL software. The cost is estimated at $US10-12 per item. It is clear that the transmission of documents electronically is coming: it is only a question of how we make it come about.

A. ***Librarians as Advocates of Their Vision of the Future:*** Librarians need to add to their skills. They have been in the fortunate position of being wanted by everybody. Anybody who wants to attack a Vice-Chancellor usually claims that he is not spending enough on the Library. As a result librarians have not really had to become persuasive advocates for the service that they offer. One of our people did a useful exercise in writing a prospectus for the library to the year 2000. This was issued in pamphlet form and began to influence the course of debate on campus in a positive way. This sort of skill in policy development and advocacy, directed at influencing the whole campus population, is really an important skill. No Vice-Chancellor would ever try to get away with a major policy change on campus without a lot of preconditioning and allowing time for a set of ideas to mature. A good Vice Chancellor has got high idealism, but a fair bit of low cunning too. Now librarians have to have that same sort of skill for the future. Like Vice-Chancellors they are in phase of transformation. During that phase, it seems to me, the campus population has to be prepared, insights have to be built up about the changes that will occur in the future, and the reality of organisational changes that will lead to incorporations beyond the Library itself will have to be accepted. Librarians will have to learn to work in new organisational arrangements in order to harness up the resources that will be needed to deliver the services that have been envisioned. A vision must be conveyed to everybody on campus. This is a skill that has not previously been required but I think it is one that has to be developed so that all of the things that have been talked about can happen

The usual way we approach services on campus is to say to students — they are getting pretty angry about it — if you want the service you pay extra. To be greet a student coming onto campus and saying, here is your credit card with $200 on it for library and database searching, would be a major change of presentational format which might be quite welcome. If you want to go past the basic amount you will have to pay, but here is $200 to start with. These are the sorts of skills that ought to be more widely discussed.

Funding Of Higher Education: Issues For Libraries

George Zuber

I agree with the previous speakers about the centrality of libraries within the institutional infrastructure of higher education. They have a direct impact on the quality of teaching, learning and research. It is also evident that libraries in the higher education sector have been under pressure for some time. In their April 1987 reports, both the Advanced Education Advisory Council and the Universities Advisory Council of the Commonwealth Tertiary Education Commission drew attention to this fact. The Universities Council recommended that CTEC carry out a review of the library system in higher education to address the following issues:

- the extent to which regional and national co-operation exists between libraries in the purchasing of materials and the provision of services to users, and ways to improve such co-operation;
- the extent to which co-operation between libraries in higher education institutions and the public library system can be increased;
- the accessibility of library material in one institution to users in another institution, not only via the system of inter-library loans but also by making the catalogues of libraries available to users in all universities;
- the role of information technology in the provision of library services;
- the problem of storage of material in libraries and possibility of regional co-operation by a number of institutions.

The Ross Report CTEC stated in its report for the 1988-90 triennium that "the commission shares the concern of the two advisory councils in relation to library facilities and services and agrees that an investigation of the higher education library system should be undertaken."

In January 1990 the National Board of Employment, Education and Training commissioned a review of library provision in higher education institutions. The working party was chaired by professor Ian Ross and its report, *Library Provision in Higher Education*, was published in December 1990. Despite its low cost, relative to similar reviews, the report was very comprehensive and is a credit to the professionalism and competence of the Working Party.

The Working Party was asked to assess:

- the present condition of higher education libraries;
- the impact of new technologies on information storage and inter-library communication;
- strategies for co-operation;
- options for providing storage and study space; and
- the choice and use of performance indicators in library management;

It was also asked to frame its recommendations 'within the context of current resourcing levels.'

The report's principal conclusion was that the general standard of library provision in higher education institutions could be improved. Its recommendations were directed to the institutions themselves, library professional bodies, the Australian Vice-Chancellors' Committee and the Commonwealth, and were concerned principally with the need for co-operation between libraries in the provision of services and in the storage and retrieval of information.

Comments from institutions indicated that there was strong support for measures to improve inter-library co-operation. There was also particular support for having higher education library holdings entered into the national bibliographic database by 1994 and for the establishment of a gateway between the Australian Bibliographic Network (ABN) an the Australian Academic and Research Network (AARNet).

Major Trends in Higher Education Funding sources for institutional library development, and the trends emerging in university funding generally, are influenced by a number of major recent developments in the higher education sector. Among these are

- the growth and increasing diversity of the student population;
- the processes of learning which are changing at an increasing rate — speeded on by technological developments and the decreasing significance of the lecture/tutorial setting as a learning environment;
- shifts in the balance of students with the emphasis increasingly on postgraduate load. The elimination of the binary divide allowing institutions from the former advanced education sector to offer higher degrees by research is contributing to this trend.

These developments are putting considerable pressure on university libraries. The growth in numbers entering higher education (an increase of some 50% since the Government came to office in 1983) has been dramatic. The Green Paper on Higher Education, issued in December 1987, suggested that Australia's higher education institutions should be producing 115,000 graduates per year by 2001 (The commonly cited figure of 125,000 graduates included 10,000 graduates of State-funded courses in TAFE.) This reflected the very strong growth in student commencements which has taken place since 1988. Current projections (on the basis of data provided by institutions) now suggest that the target of 115,000 graduates per annum will be exceeded in 1992, some nine years ahead of schedule.

The nature of the student cohort will continue to change over the next decade. While demand from school leavers for higher education will continue to be high, the demand from mature age students (who now constitute 45% of the student population) is likely to increase as a result of award restructuring and the continuing need for skills upgrading in the workplace. Higher education will need to adapt to the growth and diversity of the student population by keeping under review not only admission procedures, curriculum design, teaching practices, credit transfer arrangements and so on, but also other learning and student support services, especially library services.

In recent times the penetration of the various information technologies has been accelerated by rapid reductions in costs and expansion and improvement in the telecommunications infrastructure. These developments offer tremendous potential to increase access to education and to improve the quality of that education. In the longer term there may be productivity gains to be made from the new technologies, but that remains to be seen.

The Minister for Higher Education and Employment Services, the Hon. Peter Baldwin, has identified the potential of new educational technologies as a focus for attention over the next several years. The Minister has been excited by some of the innovations he has seen in various universities, particularly in the Distance Education Centres. But he has also been concerned that there are too many 'one-offs' and that much of the potential is not being realised. With that in mind, and to ensure that further developments are soundly based in both educationally and in cost/benefit terms, the minister has established a review of alternative modes of delivery of education. The review will help inform both government and universities in their efforts to realise the potential these technologies offer.

Developments in distance education and educational technology are already having a fundamental impact on the nature and operation of libraries. This is not to say that the traditional character and function of libraries will disappear overnight. Information in printed form was perhaps the original vehicle for distance learning and, despite what I have said about new technologies, printed material will no doubt remain the prime vehicle for the transmission of knowledge for some time yet. Indeed, the Ross Report on library provision in higher education institutions concluded that new technology has been something of a double edged sword for university libraries. On the one hand, the report observed that libraries have been able to meet increasing demands on service through the application of technology. On the other hand, the report also concluded that the application of technology has been and will continue to be a source of pressure. This pressure results, for example, from rapidly improving bibliographic access that the technology makes possible. This not only increases demands for documents but also adds to demands for assistance from users.

The Ross Report also pointed out that the offering of higher degrees by research by former advanced education institutions was a major challenge to some libraries. It estimated that on average the library provision required per person for postgraduate research is *about ten times* that required by an undergraduate. The report emphasised the fundamental importance of libraries as part of the infrastructure needed to support postgraduate research programs.

This very high relative cost of services to postgraduate research students is just one reason why the government has urged caution on universities, particularly those from the former advanced education sector, who are seeking to introduce new postgraduate research programs. They must be highly selective as to the fields they choose and they must take care not to disadvantage their students, postgraduate or undergraduate, by trying to move too quickly.

Statistics of University Library Funding The Government has of course been conscious of the pressures on libraries. The Ross Report itself was commissioned at the Government's request to inform discussion and decision-making on the subject. There are a few powerful statistics which make clear the importance attached to support for university libraries. In the 1992-94 capital program of $800 million, $70 million has been committed to library projects. One category of research grants (Research Infrastructure Program: Mechanism B) provides funds to assist the development of research infrastructure at former advanced education institutions. Grants in this category totalled over $18 million in 1992. Twenty-nine universities were successful in obtaining funds for 122 research applications. Eighteen of the successful proposals had an explicit library element for which support was requested. These library-related requests amounted to $1.6 million.

The Research Infrastructure Program also provides grants for large research-related items to be shared between universities (Research Infrastructure Program: Mechanism C). In 1992 thirty-three successful applications shared in the distribution of $12.4 million. Of the successful applications, eight were specifically for libraries and library-related databases, archives and information systems totalling $2.1 million.

In response to the Ross Report we are also providing a special allocation of $1.5 million from the National Priority (Reserve) Fund in 1991-93 to support co-operative initiatives for improving the quality and provision of higher education library services nationally. These initiatives include entering records into the national bibliographic database and other co-operative ventures, such as the development of a basis for the distributed national collection through a national Conspectus database and Chinese/Japanese/Korean (CJK) languages cataloguing. Significant grants to assist with the costs of university amalgamations have also been directed to establishing effective library services, especially in multi-campus institutions.

Last but certainly not least, the majority of funding for libraries is provided to institutions through their operating grants which in 1992 will amount to some $3.5 billion. The Ross Report estimates that 6 to 7% of this enormous sum is applied by universities for their libraries.

The Relative Funding Model In his very comprehensive background paper for this conference *(see above)*, Stephen Oakshott refers to the changed distribution of base funding in the Unified National System. It should be noted that the adjustments to funding which were made by the Government by way of the Relative Funding Model related to teaching costs and not research. The Government acknowledged the significant distortion which had existed in the allocation of Commonwealth funds to institutions for teaching costs, and introduced measures to achieve a more equitable distribution of resources in this regard.

The Relative Funding Model was announced in august 1990 and followed detailed negotiations with the higher education sector during the previous twelve months. The once-only adjustment package involved a mixture of funding adjustments and adjustments to planning targets to bring institutions within the 3% tolerance band of a notional average funding level.

Towards One-bucket Funding In 1992 the Higher Education Funding Act was amended to allow for the possibility of funding non-building capital projects and the Government has agreed that the definition of capital funding should be extended to include major investments in new technologies and courseware in order to increase funding flexibility for institutions and to facilitate the application of technology to improve quality and productivity. The amendment was introduced in view of the capacity of universities to use information technology to deliver educational services. Libraries are making increasing use of such technology.

In his Policy Statement of October 1991, Minister Baldwin announced that, from 1994, higher education capital developments would be funded in a different manner. Capital grants are to be rolled into the operating grants from 1994. The Government is currently considering responses to a discussion paper, circulated by the Minister in march 1992, to give the system the opportunity to consider the issues and to identify the most appropriate means of implementing this reform. The Government's decisions on individual allocations under the new arrangements will be announced in a supplementary funding report, to be released shortly.

There will be clear benefits to institutions flowing from this reform. It will enable institutions themselves to determine appropriate levels of expenditure on maintenance, rehabilitation, and refurbishments of capital stock and to balance these needs against other priorities. This move to "one bucket" funding will provide institutions with a level of flexibility which is not possible under the present arrangements.

The Ross Report stated that there was considerable agreement that in the absence of a comprehensive central library in Australia, such as the British Library or the Bibliothque Nationale, the national interest requires that the principal libraries in Australia be recognised as a single national resource, now described as the Distributed National Collection. This is being actively pursued by the Australian Council of Libraries and Information Services. It has been supported by the Commonwealth through grants for collection assessment, which is being recorded on the national Conspectus database. There is much further work to be done in this area and this will be one of the tasks to be overseen by the AVCC Standing Committee on Libraries which has recently been established following the recommendation of the Ross Report.

The Government's Quality Agenda The debate about quality of education in Australia has tended to focus excessively on resource issues, such as average funding rates and staff-student issues. While these are relevant considerations, to single them out as sole indicators of teaching and research quality distorts the concept. Quality is a function not only of the level of resources available but also the way resources are used. Minister Baldwin's October 1991 policy statement outlined a number of initiatives for maintaining and improving the quality of provision of higher education in Australia. These initiatives include:

- setting up a quality advisory mechanism external to institutions; and
- the provision, annually from 1994, of $75 million of additional funds to reward institutions which make better use of their total resources.

The prime responsibility for quality enhancement and assessment should, and will, rest with individual institutions. Any quality assurance structures to be adopted will necessarily have to take into account a wide range of factors including the need to sustain quality in the face of strong higher education growth, while also improving overall productivity, efficiency and equity. The role of support services and university infrastructure cannot be underestimated in determining quality outcomes in higher education institutions. Such services cannot be seen to operate in isolation from teaching and research processes. The library occupies a position of central significance in the university's infrastructure and its efficient operation is basic to the health of the whole enterprise.

DISCUSSION

Q. *Ross Report Recommendations:* Was there interest in the Department in following up the recommendations of the Ross Report

A. Yes, but I cannot comment beyond that. I am not aware of all of the issues involved and the timetable for pursuing them. Nevertheless, as I have shown, we certainly were supportive of a number of the specific follow-ups of matters that were referred to us and those that the AVCC were to engage in. Of course in moving these matters along, pressure helps; nothing happens naturally.

Q. *Decentralised Funding vs Need for national coordination:* It is quite clear that government policy is to move as much of the total funding available for Higher Education to the individual institutions. You have already pointed this out in terms of more being in the operating grants and less in the capital grants. In libraries, however, we really are moving from a position where institutions could largely meet the needs of their own institutions, however inadequately they did this, from their own paper-based resources (In the past inter-library loans have always been a very small part of the total operations of libraries in the higher education sector). Now, however, we are moving into an era where the success of libraries in delivering support of teaching and learning is going to be more and more based on providing access to resources outside of their own institution. Yet it seems to me that the system at the moment is diminishing the resources which are devoted to making the system as a whole work better, whether it is the university system as a whole or the library system. However, there is an enormous investment that is going to be needed in developing standard protocols, for example, and experimenting with a wide range of information stations, whatever particular methodologies and technology are ultimately used to deliver the access needed. For fairly small sums of money compared with the total spent on universities, an awful lot could be done in this area. The problem is that we don't appear to have any general mechanisms to make the case and secure the funds needed given the trend towards decentralisation.

A. *One Bucket and Bathing the Baby:* I simply accept that this is a case of baby and bath water time. I mean it is not necessary to head the full direction towards decentralisation, but it is a clear instrument of government policy to emphasise the need for a single bucket. There are trade-offs in that institutions, as a result, enjoy considerably greater autonomy than they did in the past and one of the issues involved here is where they choose to spend their funds. But I don't think we need to go the whole hog. I am aware of the necessity of the distributed national collection, for example, and have wondered about the extent to which that is being supported today and what further work needs to be done towards achieving it. So I agree in recognising that there is an important problem here and that the right mechanisms have not been formed.

Libraries in Education for the 21st Century: Intersectoral Relationships

Gregor Ramsey

The Development of a "Seamless Web" of Education I wish to start by briefly outlining the broad directions I see for post-compulsory education in Australia. Governments have made it abundantly clear that they expect industry and the education and vocational training providers to work much more closely together to develop a jointly owned, revitalised, efficient and effective national vocational education and training system. This must be a system which is committed not only to increasing the proportion of the work force with competent skill levels, but one which is dedicated to increasing the quality and diversity of skills of all workers. The need for higher levels of skills and a greater diversity of skills for individuals will stem from new arrangements for the organisation of work. Such new arrangements are essential to enhance the volume and quality of workplace productivity needed for an improvement in national standards of living and economic prosperity.

Perhaps it is worth reminding ourselves where Australia fits in to the rest of the world and how our education system is seen to compare with our major competitors. Countries such as Japan, Germany, Switzerland and Singapore have excellent education systems which seem to place less emphasis on creating geniuses than on ensuring the competence of the general population. They also have values that endorse hard work, team spirit and tenacity. If you want to follow this theme further, the 1991 *World Competitiveness Report* of the International Management Development Institute and the *World Economic Forum* are the places to look. There is no doubt we have to do something about our education and training systems if we are to be competitive.

In the current environment, it is essential that existing barriers and rigidities between the different sectors of education and training are dissolved. Australia needs to develop a "seamless web" of learning opportunities to provide for the formation of skills and knowledge and for their transmission. This should be achieved through the development of an integrated education and training system. Among its aims will be:

- development of an adaptable learning culture which focuses on lifelong learning rather than a credential for life. This will require a broader range of offerings and a multiplicity of pathways over a much longer period of people's lives than is the case now; and
- changes in the ways the boundaries are drawn between:
  compulsory and post compulsory schooling
  school and TAFE
  TAFE and the adult and community education sector
  TAFE and higher education
  TAFE and private training providers
  TAFE and industry.

62

Sectors and categories and barriers make things easier for teachers and administrators, not for learners. Wide acceptance of this concept of a "seamless web" would result in:

- a diminishing of the tendency to draw sharp value distinctions between the university and TAFE sectors as a means of developing a more integrated tertiary education system in Australia, in which TAFE plays a major role;
- the convergence of vocational and general education as proposed in the Finn report; and
- a more balanced and equitable evaluation of the relative values of theoretical knowledge and its application.

There will also need to be a cultural shift in perceptions of education if Australia is to come to terms with the educational demands for a capable Australia in the 21st century. This would involve community and industry recognition of the fact that a capable country comes as much from the skills of the "non-professionals" as it does from our university graduates. The *World Competitiveness Report* mentioned above makes this point.

The development of a more integrated system will require a much greater degree of inter-sectoral collaboration than has occurred in the past. Although there has been considerable progress made in the negotiation of arrangements for credit transfer between TAFE institutions and individual higher education institutions and an array of rules and guidelines for credit transfer have been established, the traffic is still very low and there are still many problems that need to be resolved. The progression from TAFE to university needs to be as easy and acceptable as progression from school to university.

Following the Finn Report and associated national trends such as increased senior secondary school participation, there is little doubt that the TAFE sector will be required to increase the provision of its para professional courses at Associate Diploma/Advanced Certificate level. It is these courses, which make the greatest demand on library and information services. Any growth in this area of course provision will have implications for inter-sectoral cooperation in credit transfers and library and information services. With respect to the latter the question immediately arises: can we afford to set up yet another expensive library system when we already have an extensive one in higher education, admittedly devoted to the elite end of the student cohort?

The other side of the coin is the need for industry, the community, governments and educational systems (including TAFE) to recognise the potential for TAFE to extend its educational reach in areas where it has the expertise and universities generally lack expertise. TAFE has an important role to play in accommodating growth in new areas and providing a significant alternative to school and university. TAFE will never get into research of the university kind, but it will expand its teaching to whatever level is required, illuminated by vocational experience, direction, knowledge and need. Research is clearly *not* the only source of knowledge to illuminate teaching.

Just as there is a need for change in the relationship between TAFE and higher education, so too there is a need for change in the relationship between schools and TAFE. New opportunities must be provided for young people so that they can more easily enter a new world of work. There needs to be a much wider range of options which offer greater mixes of TAFE and school studies; part-time TAFE or school and part-time work; full-time work and part-time TAFE, part-time school, part-time TAFE and part-time work.

If this "Seamless Web" is to develop and become effective as the revitalised integrated national training system, I consider that there are three essential themes that all education providers must enshrine within their vision. They are: quality, partnership and diversity.

Quality Ongoing quality improvement will be essential to all products and services provided by education and training sectors, whether they be formal award courses, custom designed programs, educational resources, research or consultancy services. There will be a need to ensure quality management systems, such as TQM (Total Quality Management), are in place. In TAFE NSW, we propose to seek accreditation for our quality management system from Standards Australia. An essential component of quality for vocational education and training providers is the extent to which we are meeting client needs.

Partnership Partnership between the range of educational and training providers, industry and professional organisations will be essential. TAFE NSW is prepared to take the initiative in fostering and extending its existing links and forging essential new links. In whatever our education and training capacity, we cannot afford to dissipate Australia's training resources by not working well together. NSW TAFE is heavily involved in national cooperation with other state systems in a range of research and development tasks, including national curriculum development, joint programs with other educational providers and new alliances between public and private organisations. There is no doubt that the self-interest of each provider is best served through cooperation and collaboration. With this in mind, the eleven Institute Directors of TAFE NSW are actively engaged in developing links with their neighbouring higher education institutions and I am advised that discussions to date have been mutually fruitful.

Let me provide an example of cross sectoral cooperation between a higher education institution and TAFE. The University of Newcastle and Ourimbah College of TAFE are jointly developing a shared library facility. This has involved joint funding and planning of the building and when operational, will involve a joint collection and cooperative staffing arrangements. Joint library facilities have also been developed between the Department of School Education and TAFE, such as the facility at Young which is now operational.

Diversity Diversity will also be a major theme of vocational education and training. Courses, modes of delivery, income sources, students and staff will become increasingly diverse reflecting the range of education and training pathways. This diversity, however, will need to be managed efficiently and effectively and priorities and processes streamlined.

The increased diversity in ~~the~~ student body which has challenged TAFE NSW over the past 15 — 20 years, is likely to continue to present special challenges to higher education institutions and their libraries over the next decade. They will have to cater for students with a much wider range of socio-economic, educational, work experience and cultural backgrounds. The diversity of student backgrounds has particular implications for the delivery of appropriate library and information services.

As an example of an increase in the diversity of course provision and delivery in TAFE NSW, which has implications for libraries and information services, I would like to outline to you some recent developments in open learning which are occurring under the auspices of TAFE's new OTEN arrangements.

Open Learning in TAFE NSW While distance education in some form is a well established method of delivering post secondary education, it has until now represented a relatively small proportion of the student population. In recent times this method of instruction has captured the imagination of industry and governments. It is seen as one of the solutions for Australia in the 1990s to the problem of meeting the increasingly broad range of educational demand. Linked to appropriate communication and broadcast technologies, I am confident that open learning in its broadest conception will carry us into the 21st century.

TAFE NSW has been actively setting up what is called OTEN, the Open Training and Education Network, to be the open learning arm of TAFE. It is setting the scene in Australia for a national open learning platform built on the professional, and technical and administrative skills of distance and flexible education. These moves to implement open learning in TAFE (sometimes called mixed mode or flexi mode delivery) vary depending on the discipline, local needs and access to resources. The range of OTEN's provision covers everything from traditional distance programs to students using print and video resources as a basis for their learning, supported by interactive satellite-delivered lessons and tutorials which have a competency based assessment procedure conducted in the workplace rather than in a formal institutional setting.

Successful implementation also involves high levels of cooperation between OTEN and the other TAFE Institutes and can result in quite different operating models. An example of one model is the Associate Diploma in Urban Horticulture which is being offered through the Western Sydney Institute at Werrington where students enrol at Werrington, receive the packaged learning materials from OTEN and attend optional tutorials every 2-3 weeks at Werrington.

Open learning will require an enormous cultural shift by educational organisations if they are to come to terms with the need to organise education to meet student/industry needs as opposed to student and industry fitting in with systems set up by universities/TAFE/schools. This shift in educational delivery to a much more flexible student driven one, will also have an enormous impact on the role of libraries.

Our challenge is to manage a system of learning which increasingly recognises existing competencies and involves delivery at a distance in modules which are multi mode, self paced and competency based, all within a framework of quality. What a mouthful and what a challenge all that is!

University and TAFE Libraries Libraries in the universities have aspired to develop collections which will support research and postgraduate study in a wide range of disciplines. In Australia, the period of the 1970s and early 80s was the Renaissance period of university library development in which unprecedented growth occurred in collections and the number of new buildings to house their collections. Australian university libraries, fledgling libraries in the main, aspired to develop collections similar to the great university libraries of Europe and North America. There has been too little evidence of rationalisation or cooperation. University systems and services have been set up in the most part by an elite for an elite.

TAFE NSW has never had enough resources for its libraries. There was an increase in the resourcing levels of libraries, following the availability of special purpose Commonwealth Funding resulting from the Kangan Report. However this was matched by a dramatic increase in student enrolments. The establishment of the University of NSW (formerly the NSW University of Technology) and the University of Technology, Sydney (formerly the NSW Institute of Technology) from the TAFE NSW system further depleted the library collection of the TAFE system which at the time was principally located at Sydney Technical College.

In the 1970s and 80s TAFE NSW placed considerable resources into library buildings as opposed to collections. This resulted in only a gradual improvement in library stock which was countered by rapid growth in enrolments and in the number of college campuses. TAFE in the 1990s is likely to use more flexible funding arrangements to direct library funds away from facility expansion and towards new information technology.

TAFE NSW has a clear need to build up its collections. The costs involved, however, are immense. The rate of change and growth of knowledge must also lead us to question the appropriateness of placing inordinate resources into building up traditional static library collections in the TAFE sector. In my view the answer to our dilemma lies in the efficient and appropriate exploitation of the new and emerging information technologies. These provide information and knowledge that can be easily updated and used simultaneously by multiple users at multiple locations.

I am suggesting that the TAFE sector might be best served by “slipping a cog” in the information revolution and directing its resources to new technology based information services. Indeed, I might go further and suggest that future learning and knowledge acquisition in the TAFE sector might well have less to do with buildings, teachers and traditional libraries, and more to do with multi-media open learning approaches and appropriate exploitation of information technology.

In this context, with both their immense traditional static collections and new ability to provide technology-based information services, university libraries will need to be seen in a much broader role as a national resource than they have in the past. They must become a resource to be used not only by teachers, researchers and students in the higher education sector, but by those in all the other education sectors, in industry, in the community — indeed by all “who need to know.”

I am advocating the promotion and reality of university libraries as a truly public facility. They will have to be resourced accordingly and obviously they must attract appropriate ‘fees for service.’ If this were to come about, TAFE would make greater use of national bibliographic networks to access information, although the extent of TAFE's financial contribution and involvement would depend primarily on the effectiveness and efficiency of the services TAFE would receive from such arrangements.

Consequently, Learning Resource Centres with their characteristic focus on client needs and on access and technology, the development of which received a strong impetus from the CAE and TAFE sectors in the 1980s, in my view constitute an appropriate model for the TAFE sector today. We are planning to use this model and to develop open learning centres as specialist resource based access centres within the statewide TAFE library network using the resource sharing and technological infrastructure that already exist. The open learning centres will also be the location for receiving TAFE educational satellite broadcasts as well as any other public educational broadcasts. They will be places where students can come to test their knowledge or competencies using computer assisted learning packages and systems and to use multimedia resources or specialised print resources. It is envisaged that in some disciplines access to multimedia resources will be via personal computers and modems. However it is important to recognise that new technologies can close off as well as open up learning opportunities.

Future Directions for Libraries It seems to me that as we change our approach to the role of educational institutions in Australia, all libraries serving these institutions will need to set new directions. Their librarians must take the initiative to become active managers in the student-centred, self-paced, resource-based, learning environment in which industry and the community will play a much more significant role in determining priorities and needs.

We expect that TAFE NSW will set the pace for TAFE nationally because of its greater resource base and because of our achievements in developing an open learning approach. Through our joint initiatives with both the higher education and school sectors, we will be able to set up some innovative models in new educational precincts — such as the Nirimba Naval Establishment in Western Sydney, and Bradfield Senior College in North Sydney. Just as there will probably be a shift in resources to the TAFE sector overall, there must be an increased commitment to providing appropriate levels of funding for learning resources for the TAFE open learning centres and libraries. Part of the shift in resources should involve an investment in standard and compatible telecommunications infrastructure to allow easy and flexible access via computers to other multimedia resources, data bases, electronic journals and so on.

The things we now call "Resources" have expanded to include a myriad of national and international databases and vast arrays of information held in electronic form which can be accessed relatively easily from a computer terminal just about anywhere in the world. Libraries have been at the forefront of facilitating this access and encouraging their users to recognise the existence of and to use this enormous, ever increasing quantity of information. These changes are, however, relatively minor compared to those which will be needed to support the fundamental changes in educational philosophy and practice to which I have referred above.

As we consider the important future role of libraries in vocational education and training in both higher education institutions and the TAFE sector, it is very easy to become preoccupied with issues such as resources, learning materials, course delivery methods, technology and buildings. The real challenge for libraries in post-secondary compulsory education is to optimise the use of their human, technical, physical and financial resources to meet their clients' needs. Particularly important will be the needs of their student in that there will be a progressive increase in the diversity of students undertaking courses in both the TAFE and higher education sectors. The need to address problems of information literacy and to provide reader education services will be paramount if we are to maximise the quality of our course provision and be truly client centred. There will be a need to cater for a new type of student who is more familiar with technology to access information than books.

In an oral submission to the Kangan Committee it is reported that a former Head of a State TAFE system said that TAFE students did not read so did not need much in the way of libraries.[2] Before we throw our hands up in horror, perhaps what was being said was that TAFE students, or technical students as they were then, need a different kind of knowledge than that in books, and require information in a different communication form. Having 'slipped a cog' as I mentioned earlier, we can provide that different kind of information through technology almost anywhere in the nation. The new technology provides an opportunity for these students to access applied information in new and more meaningful ways consistent with their existing learning styles.

Our directions as educators are now fairly clear. They are being set by both State and Commonwealth governments as a result of economic necessity. Libraries need to recognise the central role they can play in this new era and work with educators to make sure that they are not just carried along but are very much agents for change.

We cannot afford to provide a library system in TAFE to parallel the one established in universities, and because of technology, thank goodness we do not need to. A revitalised higher education library system supported by an effective telecommunications network, managed innovatively and strategically to meet the real needs of students who are much more in control of their own learning will be the golden thread that runs through the seamless web of our new education system.

Young People's Participation in Post-Compulsory Education and Training: A Report of the Australian Education Council Review Committee. Canberra: Australian Government Publishing Service, 1991. (known as the Finn Report) Recollection of the Secretary of the Kangan Committee — private communication.

Notes

1 *Young People's Participation in Post-Compulsory Education and Training: A Report of the Australian Education Council Review Committee*. Canberra: Australian Government Publishing Service, 1991. (known as the Finn Report)

2 Recollection of the Secretary of the Kangan Committee — private communication.

DISCUSSION

Q. *Problem of National Structures for TAFE:* You are proposing a new model in which New South Wales TAFE has a very centralised formal library service augmented as a result of negotiations with the universities on a State level. In the other states things are not perhaps as straightforward. What mechanisms are going to be needed at the national level for TAFE and university cooperation? Up until now this seminar has really dealt with how universities librarians should work within their own organisations. I am interested in exploring what degree of new organisational structures may be needed nationally.

A. *Devolution in TAFE vs Centralisation (Baby and Bathwater):* As someone who had never lived in NSW before, it is interesting to come into a very centralised system and to see the advantages and disadvantages. One of the advantages — and one of the reasons why I think NSW was well ahead in the negotiation of credit transfer — is that a central administration could speak for TAFE and then negotiate individually with each of the universities in NSW. That was quite an efficient way of doing it. Of course it would have been even easier if there had been one state NSW university. Two people could have spoken together and that would have been the end of that — but that creates a whole range of other problems! In fact NSW TAFE is devolving and we have now established 11 institutes with an increasing level of autonomy. This means that in 5 or 10 years it is going to be increasing difficult for TAFE to speak as one system. In NSW we are trying not to throw the baby out with the bath water. In other words we believe very strongly in the operational autonomy of the individual institutes, but we want to retain a centralised emphasis and centralised service provision for those things that are much better provided in this way with the benefits of the total resources of the whole system behind them. Libraries are a very interesting case in point because there is tension as to whether we should devolve all aspects of the libraries to the 11 institutes or whether we should maintain a central system. I think one area that we will always maintain centrally is cataloguing — this does not have to be done 11 times. Anything that is better done centrally should be so done.

It is too early yet to say what sort of structures will be set up for TAFE. This I think is going to depend very much on the Commonwealth — on issues such as Commonwealth funding and whether the Commonwealth is going to take up the total management responsibility. Clearly, the individual strengths of the 8 state systems are going to diminish as we move closer and closer to a national system of TAFE. While I agree that there are many weaknesses in the TAFE system because it was centralised, one of its strengths lay in those areas that are not directly related to the day-to-day operations of teaching and learning. The resources, for example, that you can put into the development of materials is much better contained if there is an overall state focus and state responsibility. Another example is overseas activities. For example, in Victoria each of the institutions in the TAFE sector there speaks with its own voice, whereas in the more centralised NSW system we can have very quick government to government discussions or discussions with the TAFE Commission which then involves the individual institutions.

Nationally, one of the things that ought to exercise all of us is how the library systems that now exist in Australia in the higher education system can in whatever ways are necessary be used for TAFE so that we don't have to build up great big collections. We also need assistance to use networks wherever possible and wherever they are available.

Q. *Higher Education Library System and TAFE:* Some of the things that you said took me back to the CAE days and worried me a little bit, for example the TAFE won't get involved in research. We have in our institution , for example, a very high achieving polymer research institute which came out of TAFE and is in fact a TAFE-based research institute. But I also wonder about TAFE library systems simply becoming an extension of the higher education sector because of government directives and need for economy. We are talking about quite different educational emphases within the TAFE sector. At the very least TAFE needs its own librarians to be advocates for its staff and students and the interpreters of all their information requirements. I don't believe that the answer to TAFE's library needs lies simply in the higher education sector taking on the role of aligning itself to the TAFE sector, not in the way that it is set up at the moment. I think the concept is both interesting and alarming and a lot of further thought will need to be put into it.

A. ***Technology, TAFE and the Higher Education Library System:*** I did not say that there would be fewer librarians. In fact, if we follow what I am proposing, we will be able to save on information and books and so on. As a result we can have more librarians. What I am really asking is: what access can we have to the information pool that already exists in this country, before we start building up more and more? I think that increasingly, through technology, this pool is going to become more and more available to us. As I understand it you can now put the printed page of a book on a reader and an image of it can go down a wire and appear somewhere else. I don't want us to have to build up the base resources. What we want to build up is access to them and that I think is something you people need to discuss. As to the matter of research, I happen to have a simple philosophy: as soon as you say you can't do something, immediately this is what people are going to go away and do. That is why I like talking about a seamless web. This metaphor suggests that people do what they feel they have got the skills and knowledge and wish to do — and the money to do. Having said that, I also recognise that in TAFE we don't want to spend our money on research rather than teaching.

Shifting the Paradigm: Successfully Managing University Libraries

Robert Prinable

Organisational success in the nineties lies in flexibility of mind, rather than in technical expertise alone. The success of University Libraries in the nineties does not rest with the Minister, with technology, or with DEET. It lies fairly and squarely on the shoulders of the librarians. The future has not yet been written — we create it every day with our thinking, our actions and our relationships, both in unconscious and conscious choices.

I do not know anything about the technicalities of managing libraries, and that is also true for most of the businesses I work with — manufacturing, law firms, accounting firms, architects, or insurance companies. The type of managers I work with already have the expertise and experience in their specific fields — they are experts within their own paradigms. My expertise is in defining those paradigms in such a way that managers realise cause and effect relationships that were not previously apparent. I help organisations to focus on the real factors influencing their success, and to create corporate paradigms which facilitate their chosen outcomes with a sense of empowerment for all involved. My business is the re-creation of organisations.

Organisational Paradigms The idea of paradigms to describe the mostly arbitrary limits to our thinking is not new. However the enormous potential for the application of the concept of paradigms to everyday organisational situations is not generally realised.

The vast majority of organisational problems develop out of the unconscious ego-patterns of the major players. Therefore the real cause of most organisational woes can be put down to the lack of self awareness — the inability of most people to distinguish between their own ego style and their perceived external experiences. We all suffer the consequences of the recurring unconscious patterns created by our own egos, in personal relationships, at work, and indeed in life in general. A healthy attitude is one which notices and queries those recurring situations in terms of personal responsibility, rather than in terms of 'victim consciousness'. This 'healthy attitude' leads eventually to mastery of most life situations, with ease and a sense of joy, rather than an endless struggle against overwhelming forces. Trying to change the environment, without any willingness to change personally, is probably the greatest cause of stress in our society.

Examples of our difficulties in shifting paradigms is all around us, and some simple observations of human nature at work can reveal some extremely valuable lessons for success both personally and as organisation. Here are some taken from commercial experience, but I'm sure the relevance to University Libraries is easily seen.

Figure 1 represents carefully observed growth stages in any organisation's development. Each stage is a paradigm within which the activity of the organisation takes place. A paradigm is usually unconscious, or assumed without question, so

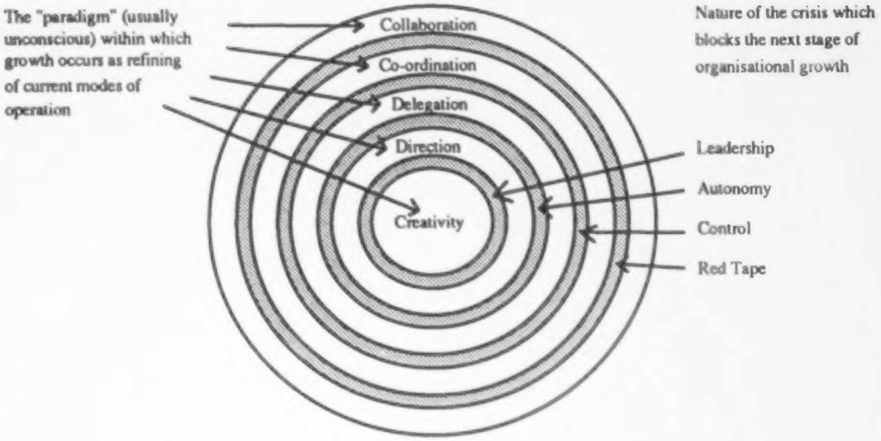
The "paradigm" (usually unconscious) within which growth occurs as refining of current modes of operation
Collaboration
Co-ordination
Delegation
Direction
Creativity
Nature of the crisis which blocks the next stage of organisational growth
Leadership
Autonomy
Control
Red Tape

Fig. 1: Observed growth stages of modern organisations

that when its inherent limitations are reached, unexpected crises occur. The solution is usually sought from within the paradigm which itself is the cause of the crisis! So, very often the results amount to more or slightly different variations of the same problems and frustrations. Solving the crisis will, in every case, require a change of paradigm if it is to be effective. Changing the paradigm is very difficult without awareness of the internal shifts that all involved individuals must experience. Organisational growth demands personal growth.

Stage One — Creativity (Focus on Concept) Organisations are started in a paradigm of creativity — an idea for a new product or service, or a felt need for a better future. Ideas for products and services that are truly new (eg. personal computers) change the reality in which our society exists. We are very attracted to, and often very threatened by, anything that offers to change our reality. This deep attraction makes our product or service popular in proportion to the degree to which it promises to change our reality. In other words we gain some success simply because the idea is novel.

Before long, opposition products or services appear, the word gets around, and the fact that it becomes part of the current reality means it loses its mystery and allure. The sales chart peaks, then begins its decline — its time to shift paradigms. But typically we will now become more creative — add extra features, increase the marketing budget, cut the price, change the packaging or re-invent the product. Initially this may have some impact, but after 2 or 3 cycles it fails to have much effect on that sales chart. Our paradigm is one of internal focus (on our own creativity) but continued success demands our growth to a new paradigm.

The shift which we (not the rest of the world) must make is to a paradigm based on direction. Unfortunately creative (visionary) leaders are usually "attached" to the creativity and won't (or can't) let it go and move to a new style. The corporate culture (paradigm) must shift dramatically or the organisation will go the way 80 percent of new businesses go within their first couple of years — out of business.

Stage Two — Direction (Focus on Relationship) The major shift from the conceptual (creative) mode of thinking to the relationship (people) mode often demands that a new leader be appointed. In any case the major shift in style defines the crisis as a *crisis of leadership*. Now the organisation requires a strong individual to set a clear course and to focus all efforts on serving the market — carving out the niche. Creative leaders often find it difficult to give strong directions to others — it might limit their creativity, and it is often something they avoid having imposed on themselves at all costs. (The classic differences of opinion between university administration and academics is an example of a crisis of leadership.)

Nevertheless, the leadership and corporate culture must shift to a relationship orientation to survive in the marketplace. People buy our product or service not because it is new (affecting reality) but because they feel it is worthwhile (a far more conscious choice). In the world of worth and value, subjective attitudes and feelings prevail. Those organisations most in touch with real people, living in today's society with today's struggles and hopes, will succeed.

A caution, however, is that the original creative vision must not be lost in the new wave of success through direction. Direction without the original creativity to guide it will lead inevitably to confused operations, and attempts to provide the whole world with whatever it might require, profitable or not! Growth through direction means that success comes from specific direction in the marketplace. Our focus is now outwards, not inwards. We search out niches, seeking out the specific customers we actually want and who can afford our product or service. The original creativity now serves to guide the direction by ensuring that the marketing function sticks to the original purpose. Our now successful business, based on expanding the paradigm of direction, uncovers more and more opportunities by way of market niches to be filled. We may develop a whole range of tailor-made products or services which we sell to an ever broadening geographic market. Our resources for effective management are spread thinner and thinner. There never seems to be enough time. It soon becomes too much for our market oriented leader to cope with effectively — its time for another change of paradigm. But typically our leader works later, comes in on weekends, sleeps on aeroplanes, maintains personal contact with major clients, follows up on all staff (they just don't seem to cover all the bases) and personally oversees the new marketing campaign. After all, somebody has to do all that!

The crisis is one of autonomy — letting go of the personal involvement and delegating to others, either in various products and services or in various geographic locations, or both. Once again, the leader is limiting the organisation rather than empowering it. Once again, his or her attachment to the paradigm is the limitation. The focus is all on people, and on strong personal leadership. How can a relationship oriented person trust a group of action oriented people to run the business? Yet now the environment is demanding a clear, functional organisational structure. The shift must be made to a paradigm of well defined actions and logical, planned systems run by competent people who specialise in their own results areas. If the shift is not made, the leader's health, sanity, or family will suffer, while the inability to truly delegate holds the organisation's power at a bottle-neck.

Stage Three — Delegation (Focus on Action) A new leader may be appointed if the old one is unable to shift paradigms. However if the market sensitivity that characterises the direction paradigm does not now guide the new functional, delegation paradigm, then the organisation rapidly becomes unresponsive to customers, justifying the old leader's fears of delegation. The new logical system and internal discipline can easily become more important than the apparent whims of overly demanding customers. ("Anyway, its not our problem — the other department takes care of that"!) The logical, and probably diverse, delegations of function which are now serve the customer must be guided by the common marketing direction, which, in turn, must still be guided by the creative vision. When this happens to a sufficient degree, the organisation again prospers and grows.

Our organisation has now grown large and well established. Our various divisions are virtually independent organisations in their own right. They have their own budgets and systems and cross charge one another for services performed. Sometimes it seems as though the whole organisation survives by charging itself. At budget time we expect each group to exaggerate its requirements in anticipation that we will cut back on their allocation. It is as if they are in competition with each other. We have a large staff at head office now, to cope with the complexity and volume of information necessary to control the whole group. We have actually tried de-centralising and then centralised again because some divisions just couldn't be controlled properly.

The *crisis of control* is upon us. The delegation paradigm is all about function, discipline and control. Large numbers of people in diverse locations cannot be controlled effectively by setting up complex systems to which they are not committed. If they are committed to a common purpose, then complex systems of control are not necessary.

Stage Four — Co-ordination (Focus on Concept and Relationships) The solution to the control crisis lies in appointing leaders to the various divisions or locations who can align and co-ordinate their people in a purpose larger than just their own divisions. They must align with the common vision and motivate their large groups towards the shared purpose. Co-ordination cannot be achieved without first giving up the need to control. It also requires that individuals hold a bigger picture (paradigm) in mind than their own area of responsibility.

An effective co-ordination paradigm demands a 'big' leader, who can lead the leaders of large groups in a shared vision. Such a leader must take personal responsibility for the personal development of each of his or her subordinates. He or she must keep subordinates aware of the big picture. An ideal training method is to swap managers between divisions for significant periods. Managers forced to operate in an area in which they have little personal technical ability cannot become involved in details and must rely on the expertise of their staff. This builds true delegation at that level, and demands relationship skills of the manager. This style of operation, with the focus on Concept and Relationship, is essential in the paradigm of co-ordination.

Often this does not happen and organisations become cumbersome and rely on management by committee for co-ordination. Unaware of the paradigm and seeking to conceptualise what is needed, consultants, teams and committees set to work devising theoretical methods of systematising all this complexity. The answers are usually the matrix organisation, a six inch thick policies and procedures manual, and working committees to investigate every possible avenue of co-ordination (other than scrapping the system of course).

The organisation then hits the next blockage. This is over co-ordination or Red Tape. Decisions have to pass a dozen committees before any action takes place. Corporate reports become voluminous and highly conceptual documents. Plans never seem to come to fruition, and attempts to find out why, result in even more voluminous "expert" reports. ***Alas, we have created a bureaucracy, and another major crisis.***

Stage Five — Collaboration (Focus on Renewed Creativity) About the only way around this crisis is to encourage people to bypass the system. Individuals from various groups collaborate unofficially to produce results that otherwise would not be possible. The practice of "bootlegging" creates new ideas and develops projects that the system would otherwise strangle at birth. Here we have human nature forcing through new creativity and entrepreneurship. We have come full cycle and its really time to start again. Separate entities need to be created, headed by people who are grown enough to operate autonomously but who choose to share a common vision with their peers. Without this opportunity, the new entrepreneurs usually leave.

So the cycle is now back to Creativity!

The Natural Cycle of the Human Creative Process All the growth stages (paradigms) and crises discussed above occur in every organisation in some form. Failure to shift to the next paradigm results in increasing stress levels within the company, and the symptoms referred to above. Eventually the shift is made or the organisation fails, and disappears. Organisations that survive in the long term succeed in passing through the crises and continue on the whole creative cycle. The creative process is the conversion of vision into reality.

What is actually involved here are not the obvious qualities of people who are intelligent, technically skilled, hard working and who really care. Organisations try to employ such people no matter what stage of the creative cycle they are at. What we are discussing here is the *creative process* itself as experienced by human beings. ***What is so significant in this discovery is that this process is the key to success in any collective human endeavour.*** By ensuring that the stages of the process as outlined above are all fulfilled in the correct sequence and appropriately connected, we can virtually guarantee that (if it is humanly possible) we will succeed with maximum efficiency and effectiveness.

The Five Levels of The Creative Process. The creative process is the conversion of vision into reality. The five stages of organisational growth (paradigms), define the five levels of the creative process. Therefore in setting up any organisation for any purpose, these five levels must be accounted for. Whether there are three people or three thousand people in the organisation, the same five levels are required. The five sequential paradigms observed in successful organisational growth, are each based on the natural qualities of the leader of each stage. He or she must be able to match the organisation's internal operations to the environment of the time. Even though the paradigm created is often unconscious in the creator's mind ("it just seems the obvious way to go"!), it nevertheless reflects a valid set of real human values. It is thus a 'values based' model of organisation.

Figure 2 provides a model of the five levels of the creative process, as described above, showing the essential responsibility inherent in each level and links this function to fundamental organisational content. The model provides a tool for building the paradigm most appropriate to the success of a specific organisation. It is referred to as "the five P's".

Vision	→	Purpose	Future Reality
Direction	→	People	Structure/Strategy
Delegation	→	Planning	Goals/Objectives
Co-ordination	→	Professionals	Action/Results
Collaboration	→	Process	Service

Fig. 2: Values Based Organisational Model

The power of an organisation is measured by its ability to fulfil its vision. That is, in its ability to transform and translate the power of the vision of the future through the five levels, into the power of the action of today.

The Implications of the Model for University Libraries in the Current Environment.

A Clear Purpose Definition of purpose must be the starting point for creating any effective paradigm. University Libraries are no exception to this. In keeping with the model, the purpose statement should be "values based," and not a goal or objective.

The primary question to be considered in depth is: "Why do we exist, in the future?" A separate purpose should be defined for each library (perhaps central Queensland has a different *raison d'être* from Sydney). If there is a national body, it too should have its own purpose statement. One would expect all these statements to align with one another while still expressing the unique qualities of each body. It is very easy in the organisational process to skip or gloss over this stage as obvious, or likely to let it result in motherhood statements, but the consequences of such actions are far reaching and insidious. An unconscious (but equally powerful) purpose arises from the egos of those in positions of influence — the need for funding, profit, technology or some private goal takes over, and we all work at cross purposes, unaware of the hidden agenda.

Without an effective purpose we are left reactive to the rapidly changing environment. Not only is this very stressful, it is also means that our fate is in the hands of others whose priorities are unlikely to match ours. At best we are forced into a defensive attitude, fighting a rear-guard action to maintain the status quo. At worst we become stubborn and resist all external efforts to have us change. It is then only a matter of time before the whole organisation must be swept away as an ineffective dinosaur.

Suggested examples of supplementary questions in determining purpose are:

- What is our core sustainable competence
  - As a service?
  - As a resource?
  - Providing access?
  - As a repository?
  - As an information base?
  - As a knowledge base?
- What do we stand accountable for, and to whom
  - Internationally?
  - Nationally?
  - Locally?
- What value do we add?
  - To teaching?
  - To learning?
  - To research?
  - To stakeholders?

There may well be many more relevant questions to be considered in fashioning an effective statement of purpose for a library. These suggestions are from an outsider's point of view and should not be taken as a comprehensive list.

Once the statement is complete (about 6-8 pithy sentences should suffice), a useful exercise is to sum it up in one sentence as a motto or advertising phrase which embodies the *raison d'être*. This provides a clear focus on the organisational paradigm to be created.

The 'People' Level Must Follow from the Purpose The people level of the organisational paradigm must expand the purpose by supplying broad principles of how it will be achieved. It grounds the purpose in to-day's environment. This includes organisational structure and strategy. It is where what is sometimes called the 'mission statement' is drawn up. Marketing and market research help make this level effective. If the mission or strategy is not 'people' oriented, it is not in concert with the model, and will suffer predictable outcomes.

The corporate structure is determined in order to provide the most effective system for internal people to interact with external people. So the logical starting point is to consider the purpose statement in relation to each of the stakeholders in our enterprise.

- Who exactly are our stakeholders? —
  - Government?
  - Business?
  - Students?
  - Academics?
  - University Administration?
  - General Public?
- Who represents each stakeholder within our team?

- What is our strategy for identifying and meeting each one's needs?
- What is our own internal strategy for fulfilling our purpose?
  - National strategy:
    - Locate University Libraries in higher education/nationalinformation policy development and resource allocation
  - Local strategy:
    - Locate University Libraries in policy development and resource allocation
  - Internal strategy:
    - Remain at the leading edge by international standards of library management

Do These Strategies Collectively Fulfil All of our Purpose? Without an effective statement of purpose to begin with, we can only focus on what the stakeholders want — a defensive, reactive stance at best. A major bank recently fell into this trap. With no effective purpose in mind (other than a poorly articulated desire to improve customer service), they commissioned a survey (market research), to find out "what their customers wanted from a bank". The expensive report, when filtered of its marketing jargon and statistical information could be summed up as, "bank customers want interest free loans for indefinite periods"!

If the bank had considered what people "need", rather than what they "want", then without any expensive survey they might have concluded that customer's needs fall into four categories — security, access, investment, and advice. An effective strategy and structure could then address how they might serve their customers profitably in those areas in which their bank had the most expertise. The result of failing to recognise this essential internal/external interface was the launching of dozens of financial products without any market logic. This proved confusing to the bank staff who had to sell and maintain the products, and even more so to customers, failing to serve them effectively. Perhaps you have personally been involved in the banks' failure to set an effective purpose?

An example closer to home for University Libraries is drawn from a soon to be distributed article on "Preferred futures for libraries." It describes a US. study involving "over 60 librarians and CAO's from 41 academic institutions." They conducted 6 one day workshops on the future of academic libraries. When filtered of all the library jargon and discussion of issues, the preferred futures (what the customers want), include:

- An integrated library/computer facility, transparent to the user; comprehensive access to national databases in all formats; information 'virtually' accessible in one place; work stations for everyone for all of the information needed; a universal terminal that can handle multi-media in all formats; work station access to all media in many locations; universal access to databases, regardless of user or resource location.
- This image remained central even though participants also identified some formidable obstacles.
- The workshops did not provide sufficient time to transform preferred futures into pieces of an articulated action plan.

- In most instances, the conversation came to an abrupt stop when someone asked, 'Who will pay the bill?'

Without an effective purpose at the outset, well over 360 man-days, plus travel time from 41 locations and, no doubt huge expenses have been dedicated to the full time employment of librarian egos! What does the taxpayer get for this expense? An ungrounded, unfunded, unplanned, idealistic dream! If you were the minister in charge of libraries, and you read how expertly so much time and money was wasted, what attitude would you adopt to librarians who complained that they were not properly funded?

Hypothetical Example As an example of an effective purpose for libraries, imagine that we have our 6-8 pithy sentences, and that they can be summed up in the following one liner:

"University Libraries — The Genesis of a Clever Country"

The 'people' level links the purpose into stakeholders — What's in it for them?

The Minister	votes and positive political contribution
Students	adding value to themselves and through their contribution to the common body of knowledge
Business	contribute funds and profit through cheap research and positive publicity
Academics	maintain intellectual leadership
Administration	the right image for funding and a sense of pride in working here
General Public	building enduring community values

Here we have effectively created a common paradigm which includes all our stakeholders — we all want the same outcomes. In simple terms, our stakeholder strategies might take the following form:

Dear Stakeholder,

Do you support Australia as a clever country?

Here is our comprehensive strategy and plans for making that a reality.........

Here is what's in it for you............

Here is the contribution we need from you..........

Please sign here..............

Planning, Professionalism and Process The next three levels are more straight forward in terms organisational functioning. It is the first two that will make or break your endeavours at this time. I will cover these levels briefly here, although they need to be considered in detail in structuring an organisation to achieve its chosen purpose.

'Planning' is the stage at which the management by objectives philosophy is most effective. Those involved are typically middle managers with experience in the field in which they manage. Their planning is action oriented, not theoretical. They know from past experience how long tasks actually take, what resources are really required, etc. They translate the mission or marketing strategy into an objective business plan. They know facts, figures, trends, and operational details of their specific area. They delegate to the professionals, responsibility and authority for agreed, specific, measurable results. They monitor progress and adjust their allocation of money, manpower, or materials to ensure the plan is met on time, within budget. In short, the value that most characterises them is 'effectiveness'.

'Professionalism' is the realm of the technical expert. Whether it is brain surgery or dish washing, the people involved here are self starters who focus naturally on results. They can be given a target and turned loose. Their focus includes remaining up to date with the latest technical advances in their fields, with the objective of producing the required results more easily, in less time, with less cost. In short, the value that most characterises them is 'efficiency'.

'Process' is where 'the rubber hits the road'. This is where the whole organisation is tested, and its purpose is ultimately realised. The people involved here contact the general public directly or produce the goods and services for the general public. They are focussed in the present, on the processes of interaction or production. They will almost always be 'relationship oriented.' They usually have the least ability to influence the system, its policies or procedures and yet they have the greatest ability to make an impact on those people who ultimately decide the fate of the organisation — the customers. For this level to work successfully, the previous four levels must be functioning correctly. In short, the value that most characterises those at this level is 'true service'.

Summary

- Organisational success in the nineties lies in flexibility of mind, rather than in technical expertise alone.
- A successful organisation requires "human nature" skills (and such skills are all about paradigms), which are depend on a separate, learned discipline, like any other set of skills.

Without these skills, which I have only touched on today, personal agendas override the common purpose. When this happens people argue for their own ego-centric views and the synergy of diverse contributions to a common purpose is lost. It soon becomes every man for himself and the corporate goals become harder and harder to achieve.

The success of University Libraries in the nineties does not rest with the Minister, with technology, or with DEET. It lies fairly and squarely on the shoulders of the librarians. The future has not yet been written — we create it every day with our thinking, our actions and our relationships (or the lack of them), both in unconscious and conscious choices.

What future are you are creating today — for your library, and for the Nation's information policy? What is your purpose. A purpose set in terms of real human values is the essential source of any successful organisational paradigm. **Your paradigm is your purpose.**

DISCUSSION

Because of time limitations there was no discussion period following Mr Prinable's paper.

Tactics Or Strategy? The Future From The University Information Provider's Perspective

Tom Cochrane

The future is not something which we should feel the need to "confront" Indeed, seasoned futurologists will tell us that it is something we define and take ourselves to. Napoleonic visions, however, have a way of not working out, as Napoleon may well have reflected around about 1812, although perhaps not in so many words. Not for us either Abraham Lincoln's more laid-back approach when he declared: "The best thing about the future is that it comes only one day at a time."[1]

What I say today is based on five premises outlined by Michael Buckland in the introduction to his Manifesto.[2] They are:

- first, the problems of existing libraries are severe;
- second, visions of electronic libraries as variously depicted seem uncertain and suspect;
- third, there is nevertheless not enough attention given to strategic thinking, with most effort going into tactical (ie short term) responses to various challenges;
- fourth, the role of our university libraries is to provide access to documents (widely defined to include non paper media); and
- fifth, the mission of the library is to support the mission of the institution which is served, in our case, the university.

The analysis which follows reviews both tactical and strategic responses which university libraries might make in seeking to discharge their role in support of their university's mission. To put a concrete focus on this, let me choose, entirely at random, a university mission statement for scrutiny.[3]

QUEENSLAND UNIVERSITY OF TECHNOLOGY'S MISSION

The mission of QUT is to bring to the community the benefits of teaching, research, technology and service.

This statement is short and sweet — the University exists to teach, conduct research, provide service and technology transfer. My focus here is on support for teaching and research. These functions are most important for libraries both tactically and strategically.

Teaching: Tactical Responses The Dawkins and post Dawkins policy agendas have affected different institutions in different ways, though most universities have shared the experience of growth, in some cases substantial growth. My own university is very much a case in point. Student numbers have moved from about 7,250 [EFTS] in 1987, the year of the Green Paper, to 17,000 last year. This 127% growth has been accompanied by growth of over 300% in loans, almost 340% in the use of the reference desk, and almost 400% in reserve or limited access loans. Figure 1 illustrates this.

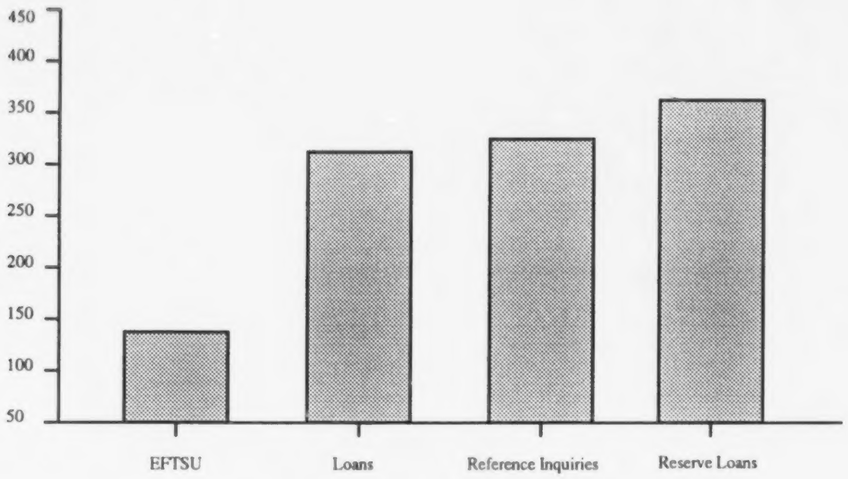

Fig. 1: Percent Change in Library Use, QUT 1987-1991.

Why is this occurring?

There are several factors. These include changes in student profile, changes in curriculum that have involved greater independent learning (or at least reduced class contact time) and, for libraries, some improvements in service and stock.

The pressures of student needs have forced tactical responses of various kinds. In my own institution apart from seeking staffing relief, the most visible response has been to develop and implement plans for new accommodation arrangements. The Library has also been driven to review the most efficient use of its staff. Some of the changes the library has introduced have been perceived by some as downgrades of service, including reduced control of collections and facilities. These in their turn now show evidence of wear and tear generated by competitive use. Greater staffing efficiency is likely to be pursued yet further through the use of more self-service routines. First dreamed of in the 1970s, self charging of loans is likely to become widespread during this decade.

To summarise, tactical responses to student pressures include reconsideration of the way services are offered, expanded or modified, accommodation arrangements, and campaigns for more staff. Sometimes these developments are assisted by clients, whether such assistance is solicited or not. A recent student rally in Brisbane, for example, demanded more Austudy for more people. Under the general slogan of fighting cutbacks, the flyer handed out to advertise the rally cited library problems such as the lack of catalogue terminals, photocopiers, texts and periodicals, as its main evidence of shortage in general provision by the University. My generation rallied against the draft and Vietnam; my children and their mates rally for more books!

Teaching: Strategic Responses Considering longer term strategies which libraries may need to develop in the support of teaching, leads to three questions:

- what aspects of overall Commonwealth higher education policy are likely specifically to bear on teaching activity in our universities?
- does the institution in which the library is located have a plan for the development of teaching, and if so, what does it mean for the library?
- what initiatives might our university libraries consider as a means of changing the environment for student learners in the 1990s and beyond?

Commonwealth Policy

As indicated in its document, ***Higher Education Funding for the 1992-94 Triennium,***[4] the Government has outlined several areas of activity which may have an impact on library support for teaching. Among them are the yet-to-be-completed review of distance education, the policy on new campus development, the references to "quality" and "alternative modes of delivery," national priority (reserve) funding, teaching infrastructure, and to a lesser extent open learning and summer terms.

I disagree with the view that is sometimes expressed that little or no reference is made to libraries in the recent documentation of Commonwealth policy for higher education. In some cases, such as the document I have just quoted, more reference is made to libraries than in any equivalent publication in the past. Indeed, one could well argue that compared with other standard components of Australian University organisation, libraries are getting their fair share of mention, as, for example, in the clause dealing with the Targetted Funding Program. Professor Ian Ross has pointed out, when he presented the findings of the Higher Education Council's report, ***Library Provision in Higher Educational Institutions***[5] to the then Committee of Australian University Librarians in 1990, that a number of Commonwealth agendas that apply to the higher education sector are relevant to university libraries. However, to achieve recognition that this is so, the libraries must succeed in applying the appropriate internal pressures.

One of the current agendas is "quality." Every year many millions of dollars go into our university libraries to support student learning. Priorities in expenditure on resources to support teaching are normally determined by reference to course documentation of one kind or another. The standard model is that the Library attempts to gain representation on general university planning groups. Failing that, the library tries to achieve acceptance of its need to be involved in academic planning. Having secured appropriate documentation, the library makes an assessment of its capacity to support a particular course or subject. The fate of such assessments, and the occasionally threatened behaviour that they seem sometimes to induce in those responsible for academic programs, are varied. By and large, however, a library resource support statement finds its way into the accreditation procedures for various courses. Recommendations 1.2 (a) and (b) of the Ross Report specifically address the problem of the relationship between resources and courses.

There are two major difficulties which together make the enterprise of adequate course support difficult: the supply of funds and academic control. Both affect the quality of the final result. In many institutions, the dollars associated with a new course do not actually flow until the year in which the course is running. This is simply too late for library support to be in place. Part of the problem here is one of the fundamental weaknesses in today's Automated Library (to use Michael Buckland's taxonomy): inherent and apparently insurmountable problems of slowness in the acquisition process. Another aspect of this problem applies at the level of institutional funding practices. Library managers should be able to seek solutions here — some may have done so already — in the form of negotiated expenditures of chunks of acquisitions dollars in the year *preceding* the year of first offer of a course or new subject.

But even if the right financial approach is found, there is a more intractable quandary. It is one thing for course documentation, or even a course planner, to identify the resources required to support a course; it is quite another to *guarantee* that once acquired these resources will still be those required by February or March of the year of first offering. This guarantee is in turn dependent on another — that the staff involved in planning a course will actually be those who teach it. Change of teaching staff is frequently the reason for a sudden change in approach or attitude to resource support. Such changes can sometimes render almost useless the activity and expense undertaken by the library in the months before.

These problems lead to a paradox. Whilst striving to provide as wide and eclectic a variety of learning support resources as possible, the university library must be certain that its expenditure on undergraduate needs will be 100% relevant if the university's mission is to be fulfilled. The library must necessarily be part of any institutional strategy for developing course modularity and common subject offerings and for delivering them in a predictable and reliable way. So the question then arises: does the institution have a strategy?

Strategic Plans

The move from an elite to a mass system of higher education (developments in Australia have mirrored those in other countries) has thrown into sharp relief some of the problems associated with university teaching. In my own institution, these take the form of an administrative imperative to reduce subject offerings and an enduring concern about our capacity to recruit and retain staff, especially in certain discipline areas.

At the institutional level, one response has been to produce a five year "Teaching and Learning Development Strategy" together with a "Teaching and Learning Management Plan." For the purpose of this discussion it is worth quoting from this strategy:

> A vital component of university education is a thorough grounding in the principles and underlying theoretical frameworks and knowledge in each field of endeavour .... However, a university education cannot be so called properly if it neglects other dimensions of student development ... these include ... a commitment to ethical principles; the ability and willingness to go beyond the end of formal preparation; a capacity for ... critical thinking; a sense of community responsibility; and a range of personal transferable skills such as time management, team membership, self organisation, information retrieval, written and oral communication skills, and so on.[6]

The abiding theme in this institutional strategy is that of creating environments and opportunities for student learning. I suspect that this would be the dominant theme in any such strategy devised for an institution that does not have one. Apart from educational soundness, it responds to concerns about quality and academic staff shortages, as well as to new possibilities being uncovered by developments in educational technology.

We should not underestimate the long term effect on conventional paradigms of university teaching of changes in information technology capability. Our university libraries must be attentive to changes in teaching and ready to establish their hospitality to the major changes that academic staff may seek. But university librarians also share with university managers an interest in what has become an administrative imperative to reduce the range and diversity of subject offerings.

Library initiatives

What initiatives should our libraries be taking as universities review and begin to revise their approaches to teaching? In the shorter term, campaigning for a system of real articulation between courses and resources is very important. This also provides scope to address another of the fundamental strategic weaknesses in most of our Automated Libraries that is related to catalogues. Providing access to collections via catalogues, a necessary but expensive library function, has suffered from various deficiencies which have been chronicled for decades. While information technology has developed to a point where these deficiencies can now be addressed, almost no libraries have done so, despite much discussion in the literature.

The severity of the catalogue problem is well illustrated by a study carried out in a Californian college library in the 1980s. Twenty percent of a sample of the library collection consisted of "collections or anthologies containing an average of 30 works each." When the ratio of volumes to works was computed accross the whole collection, the result was that for each volume on the shelves, the library owned seven works. On average, five of these seven works were not retrievable through the catalogue."[7] In other words, while we continue with good cause to be concerned about our capacity to acquire the documents which it is our role to provide, we are also (with one or two exceptions) profoundly under-exploiting the investment represented in our collections by our collective lack of action on developing new models of catalogue access at the record level. Improvements in access, which should be reviewed in the light of changes in publishing, should exploit the idea that the "pointer" to a document and the "document"itself can be in the same "place." Such improvements will enhance not only our support of teaching but also of research.

Research: Tactical Responses Tactical responses to the needs of our university research communities are several. Our largest University Libraries abandoned some time ago the notion of comprehensive ownership of resources in favour of recognising the need to make good collection inadequacies by a variety of other mechanisms. To state this a little more grandly: there has been a significant shift in the research library paradigm in recent years away from collection-centredness to a focus on access.

Once it is accepted that the aspiration of local ownership of all documentary output relevant to institutional research objectives is unattainable, the capacity to identify and supply relevant documents on demand becomes more central to library purposes. This sounds straightforward enough, but many libraries still regard interlending as an "additional" or "adjunct" feature to their central operations. Nevertheless, interlending is one area of library activity in Australia which has, in a general sense, consistently improved over the last decade and will doubtless continue to do so. These improvements are due to several factors. Among the most important are the development of much more powerful systems of listing and accessing information about locations and, related to this, a greater acceptance of the concept and practical implications of the idea of a Distributed National Collection. If it is true that there has been a redistribution of resources from pre-1987 to post-1987 universities at the library level, cooperative approaches to collection development and access become even more important.

Developments in online services and significant changes in the world of publishing will continue to assist libraries to improve the ways in which they provide access. But as document access becomes more and more complex and choices develop so that demand and expectation rise accordingly, mediation by professional library staff must change qualitatively. In some cases, this change will take the form of providing instruction to research students. Such instruction will be directed at allowing them with only very limited guidance to assemble the research material that they need. Equally importantly it will allow them to graduate in their chosen field with some notion of the way the literature and data of their disciplines are organised and accessed. In cases where universities are persuaded of the value of such instruction, the Library may see it formalised in a program of subjects for credit.

Among the tactical responses which our higher education libraries can make to the challenge of meeting institutional research objectives are improvements in document delivery, information retrieval services, and bibliographic instruction. As recommended in the Ross report, they should also attempt to secure an appropriate shares of research infrastructure monies apportioned to individual Universities by the Commonwealth. Libraries have just as much an interest in institutional policies of research selectivity and concentration as they do in the administrative imperative of reduction in subject numbers referred to in the context of meeting teaching needs.

Cooperation among all libraries, not merely libraries in the higher education sector, is vital and is being progressively secured through the adoption (although not universally) of techniques such as Conspectus. Formal collaboration between the National Library and University Libraries will undoubtedly grow in the nineties, not least in the vital area of preservation.

Nevertheless, in an ideal world all this collaboration is an inferior option to our now obsolete objective of total collection provision. Why is this ideal not recoverable in the foreseeable future? What concretely might we do about it?

Research: Strategic Responses The latest figures on periodical prices were recently released in *Library Journal*. Although the figures apply to US periodicals, the pattern is all too familiar to those of us dealing with published output from Europe and within Australia. Table 1 shows the percentage annual increase in the period 1986-92 of the Consumer Price Index compared with the index for periodical prices.

From the perspective of managing a university budget, I can think of no other area of costs which has so relentlessly inflated and which it has proved virtually impossible to index, non salary supplementation arrangements notwithstanding. In some years however, "relentless" has been not so much the watchword as "critical"

Year	% Change CPI	% Change Periodical Price Index
1986	1.9	8.9
1987	3.7	9.9
1988	4.1	9.1
1989	4.8	9.5
1990	5.4	9.5
1991	5.5	11.7
1992	n/a	12.6

Table 1: Percentage change in periodical prices compared to the Consumer Price Index (US) 1986-1992[8]

or "unprecedented". In my own case, the year 1986 saw a single year inflation rate of 38% in periodical prices, of which 15% was country of origin price rises, mainly in Europe.

I am inclined to call this problem the tyranny of the political economy of scholarly publishing. There is not sufficient time today to go into the length of analysis needed to explain commercially why this has and is occurring. Suffice it to say that ever higher prices for journals as commodities produce a result in which competition is thwarted rather than enhanced, in contrast to the economics of other commodities. What is more, there are some ways in which new uses of electronics-in-publishing (and it is important to differentiate between this and real electronic publishing) pose even greater cost threats. Journals published for profit (the majority) cost two to twenty times more than those from learned societies or university presses. But according to Ann Okerson, Director of the Office of Scientific and Academic Publishing of the (US) Association of Research Libraries, writing in April this year, the difference in costs to libraries is

> the smaller misfortune, however. The far greater one is loss of ownership. Through the conventions of scholarly publishing, the author routinely assigns copyright to the publisher, who legally becomes the new owner of the authored material for fifty years plus. That is, the academy is assigning most of its scholarship outside of academia, for a lifetime. In these days of increasing electronic dissemination and at least philosophical movement by libraries to the 'access' model, libraries are starting to be non-owners of authored works. They access off-site collections, they lease or obtain CD-ROMs through licences, and they buy bibliographic citations from middle-men by the metre or load them into local computers by licence. We are apparently hurtling into an electronic distribution age in which universities (via their libraries) may no longer own even one purchased paper copy of their intellectual birthright. Thus, we could well be at the threshold of paying over and over for every access, download, and print of our original work.[9]

Librarians in academic settings rarely tire of pointing out to various interested parties that they are the meat in the sandwich. Their academic communities do not understand why libraries are so expensive to run, and yet the very foundation on which academic careers are based is that of publishing in accepted forums to establish peer recognition and the validity of contributions to scholarship. It is on this that the welfare, or the profitability, of publishers is also based.

But information professionals who put their faith in the advent of scholarly communication networks (such as AARNet) to solve this problem for once and for all, are in for a long wait unless there are agreed, understood, and negotiated changes in the conventions of scholarly affirmation and validation. While it is true that certain events have occurred involving rapid scientific interchange outside the conventional containers of scholarly communication (cold fusion and superconductivity for example), it is also the case that current electronic forms of communication tend to replace other modes of ***informal*** dialogue among scholars. To take an analogy: when the German scientists Lise Meitner and Otto Frisch tumbled to the facts of atomic fission and recorded them on the back of an envelope in the Swedish countryside in December 1938, and subsequently compared notes by long distance telephone between Stockholm and Copenhagen, and then worked up a draft for Neils Bohr to look over, they were not doing anything which could not now be done on the Internet. However, when they sent their note to ***Nature*** in February 1939, and when *Nature* published it, they were both promulgating and validating their world-shattering finding in a way which is not yet available on our global research and education networks.[10] Such validation will remain unavailable until higher education and publishing interests can negotiate an alternative system in a way which is understood and agreed to by all those working in the same disciplines.

This problem (which I must emphasise is not primarily a technological one) is too large for libraries to tackle alone, despite the economic dependence on libraries of much of the scholarly press. It is important for those with general administrative and systemic responsibilities to be clear about how profoundly our libraries would like to see the present economics of publishing alter. Recent developments in North America are of considerable interest to us in suggesting what might be done.

In a little over a fortnight, the Coalition for Networked Information (CNI) will be exactly two years old. Formed in the United States, this organisation has, in the words of its own first report, "grown rapidly and become a recognised force in the evolution of policies and practices which will govern the networked research and education information environment"[11]. This body represents perhaps the most organised response to the possible changes opened up by the advent of high speed research and education networks. For financial year 1991-92 it established as its first and second priorities respectively, "Modernisation of Scholarly Publishing" and "Transformation of Scholarly Communication." During the period that the Coalition has been active, the National Research and Education Network has been legislated. In addition, there has been some activity on an individual institutional basis, such as the Scholarly Communications Project at the Virginia Polytechnic, and proposals for the establishment of consortia such as that recently announced, for example, by the University of Manitoba. The profile of these groups is interesting. Computing and educational technology are evident alongside libraries in organisations such as EDUCOM and CAUSE, two of the three elements of the CNI.[12]

At a practical level, it makes sense for computing professionals with expertise in academic networks to work closely with library liaison staff who have a tradition of vigilance in looking out for publishing developments of interest to their group of subject defined clients. Organisational fusion of these two groups, or more correctly, togetherness, is one step which some of our universities here and in North

America and the UK have taken.

Despite the promise and, to take Ann Okerson's line, the threat of the Networking Nineties, it is as well to keep a sense of perspective. This next figure shows acquisitions expenditure by kind of material by academic libraries in the US 1989-90.

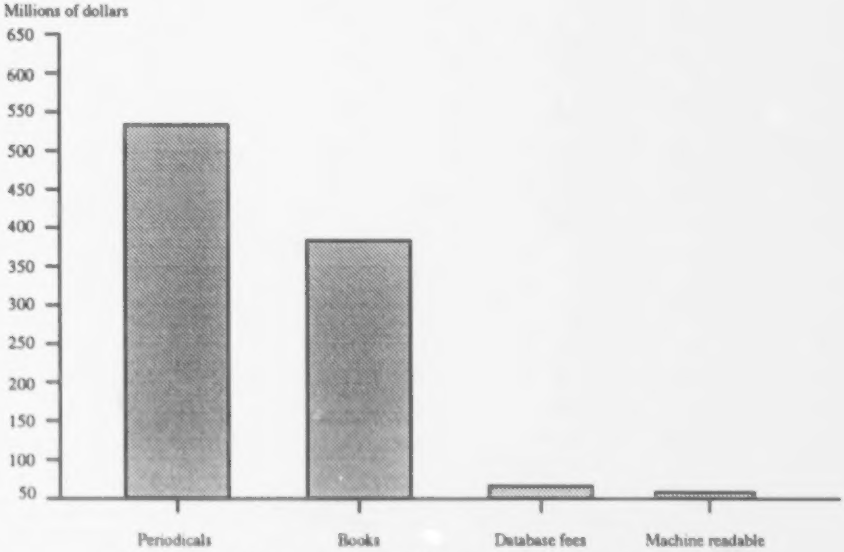

Fig. 2: Acquisitions Expenditure — US Libraries 1989-90

Periodicals at $540M accounted for the largest single item of acquisitions expenditure, followed by books at $395 million. In the same year expenditure on machine readable materials was just under $6 million, and on database fees, $17.7 million, although it is unclear whether the database fees include those paid to bibliographic utilities. Taken together expenditure on machine readable materials and database fees represent something over 4% of what was expended on periodicals.[13] The Australian situation appears similar, though not reported according to the same categories.

Our present workaday reality is one in which we continue to be preoccupied with the cost of providing documents on paper in our automated libraries, whilst monitoring, and seeking to act on, the opportunities (and possible threats) posed by the transition to the electronic library. Such a transition will not be total because needs for paper and electronic information will co-exist, possibly indefinitely. In moving forward, we should consider at least three courses of action.

Electronic Publishing Our first program of concerted action should be to explore electronic publishing in Australia. An appropriate overviewing body already exists in the form of the AVCC Standing Committee on Information Resources. Stakeholders in an Australian universities publishing network would be the research communities (mostly represented by Pro-Vice-Chancellors Research, who already meet as a group), maybe the university presses, copyright advisers (copyright is a huge issue of course), AARNet management and perhaps specific discipline groups and/or the Academies. Clearly any development of electronic publishing here would need to focus on the goal of creating Australian electronic periodicals, possibly in the social sciences and humanities (for the same reasons that our North American counterparts have done this). Our national and state libraries need to define their interests in this area too. If these stakeholders organised some form of review, one of its terms of reference should be to consider Australian access to fully electronic journals developed in North America and Europe, as well as to review the feasibility of Australian scholarly electronic processes and products. This review should address as its central problem, the process of validation of research results through publication and peer acceptance of the process.

Catalogue Enrichment A second possible program of action would attempt to deal with inefficiencies inherent in present methods for providing access to catalogues. At the ***institutional level*** this would involve more libraries taking decisions to enrich access by stepping outside the confines of Library of Congress Subject Headings (LCSH) or vocabularies that are essentially LCSH bound At the ***national (or perhaps regional) level*** developments in access would be a subset of activities related to developments in the feasibility of electronic publishing. Such access developments would involve the Australian Bibliographic Network and the Australian Committee on Cataloguing. Any program of action might also refer to the activities assigned to the Committee of Australian University Librarians by the "Towards Federation 2001" meeting sponsored by the National Library of Australia in March 1992. Representation from the book trade should also be considered.

Acquisitions The third program of action should be in the area of acquisitions. Earlier in this paper reference was made to that hitherto unavoidable difficulty from which we suffer, slow acquisitions, especially where overseas supply is concerned. Although this has been addressed in a number of ways, librarians tend still to accept as standard delivery times which are, to most clients in an academic setting, unacceptable. This reflects our recognition of the enormous complexities involved in the acquisitions process. It also reflects the ease with which external factors over which we have no control can be blamed for any delays. It is ***conceivable,*** however, that the slowest, least efficient aspects of the future delivery of service by an electronic library will be the result of continuing domestic uncertainties about who pays for what in university environments characterised by resource scarcity. This problem, which should be ***avoidable,*** deserves to be the subject of increased institutional attention and appropriate cooperative action.

Conclusion

- The future need be neither threatening enough to require confronting nor rosy and certain enough for us to comfort ourselves with false and immodest notions of total control of our destinies;
- in what we do in the next decade we must be conscious, however, that we are

actors on a stage of revolutionary change which is, and will continue to be, as profound as that produced by the invention of moveable type;

- within our libraries we must address strategic weaknesses in how we perform our basic role that have not yet been solved by the automated library, in particular slow acquisitions and inherent limitations on catalogue access;
- within our universities we must encourage libraries to develop and maintain long term balance as they move more into electronic delivery. It is a mistake to push them into e-worlds which do not yet exist,
- equally, it is a mistake for libraries and their universities not to pursue some considered course such as I have suggested. The issues are complex and the process of working from easily uttered abstraction to concrete and productive actions is a challenge. Nevertheless this process must be undertaken, the more so because, as one twentieth century French writer once remarked, the future is "not what it used to be".[14]

Notes

1 Lawrence, J. *Quotations for Our Time.* London: Souvenir Press, 1978. p.373.
2 Buckland, Michael, ***Redesigning Library Services, A Manifesto.*** Chicago: American Library Association, 1992; pp 1-3
3 Queensland University of Technology, ***Annual Report,*** 1991, p 7.
4 Australia. Department of Employment, Education and Training, ***Higher Education Funding for the*** 1992-94 ***Triennium.*** Canberra: AGPS, 1991.
5 Australia. National Board of Employment Education and Training, ***Library Provision in Higher Education Institutions;*** NBEET Commissioned Report No. 7. Canberra: AGPS, 1990.
6 Queensland University of Technology, ***Quality in University Teaching, Teaching and Learning Development Strategy,*** 1992-1996. Brisbane, QUT, 1991, p 14.
7 Hoffman Herbert H and Magner, Jerod L. "Future Outlook: Better Retrieval through Analytic Catalogues", ***The Journal of Academic Librarianship,*** 11, July 1985; pp 151-153.
8 ***Library Journal*** April 1992, p.59
9 Okerson Ann, "Publishing Through the Network: the 1990s Debutante", ***Scholarly Publishing,*** 23(3) April 1992; p 171
10 Rhodes, Richard, ***The Making of the Atomic Bomb.*** NY: Simon and Schuster, 1986, pp 256-264.
11 Coalition for Networked Information FY1992 ***Priorities*** (flyer), Washington, July 1991, p 1.
12 EDUCOM (this is not an acronym) is a nonprofit consortium of higher education institutions founded in 1964 with headquarters in Washington, DC. CAUSE (also not an acronym) is the Association for the Mangement of Information Technology in Higher Education. It was incorporated in 1971.
13 ***The Bowker Annual Library and Book Trade Almanac,*** 36th edition, 1991; pp 382-3.
14 Paul Valery cited in Peter (see footnote 1 above)

DISCUSSION

Because of time limitations there was no discussion period following Mr. Cochrane's paper.

Conclusion

Tony Wicken

In attempting to draw any conclusions from the papers and discussion, I run the risk of oversimplifying the issues involved, yet adding the complication of another point of view to those represented by the contributors. Nevertheless, I have been assured that it would be useful to provide at least one approach, from the position that I represent, to identifying what seem to me the main issues of concern as a basis for reflecting on what might happen next.

It seemed to me that Oakshott's background paper concluded that libraries have to find better ways to avoid being overlooked in the national debate on the teaching, learning and research processes than has been the case. Though not entirely ignored by government, they have not been as successful as they would like in articulating the nature of their contributions to higher education and what is required for them to function more effectively both individually and in a national system.

Buckland suggested how the emergence of the "electronic" library will allow libraries to overcome some of the limitations that have characterised their paper-based collections and the services that they have been able to offer in the past. I am concerned that Australian libraries may be lagging in their participation in, and contribution to, the increasingly electronic world of information transfer by means of which they could be better serving the teaching and research needs of their universities.

McKinnon called on institutions to keep up investment in the provision of information and in the technological infrastructure that it now requires. His point about the need to coordinate and integrate all the information functions of a campus seems to me to be well worth exploring further.

Ramsey's challenge that university libraries should support TAFE is an interesting one and will not go away. For him university library resources are also a national resource which should be available to the TAFE sector. He hopes that TAFE can avoid the need to spend scarce resources building up traditional library collections by making use of existing university collections and by taking advantage of the changing technology. Just how to do this is problematic.

Zuber reported on trends in Commonwealth financing and some of the considerations that underlie present government thinking about higher education and libraries. Particularly important was his analysis of the amount of spending that has been targeted at libraries. However, as one of the speakers quite rightly pointed out, there is an interesting paradox in the government's move to simplify and devolve financing decisions as opposed to the increasing need for university libraries to act collectively in the creation of an effective national system for which some kind of central direction and funding will be needed. Clearly Zuber's message to the university libraries is to become fully aware of and to make better use of the changing patterns and mechanisms for Commonwealth funding.

Prinable suggested that libraries, like other organisations, go through a cycle of growth and development and that they can be more effective in their management if they identify and respond to the particular stage that they have reached. He also emphasised the need for librarians to couch their contributions and needs in the language of key social and political objectives. The government and the universities will not recognise their contributions unless they can do this. How do they articulate, for example, their importance for creating a 'clever country'?

Cochrane identified the massive and inappropriate drain on resources imposed by the present system of scholarly publishing. Academics, supported by public funds to do research, then give away the intellectual property they create to commercial publishers who sell it back with a high value added impost. He called this, in a striking phrase, "the tyranny of the political economy of scholarly publishing." He suggested that universities need to introduce better strategic planning to improve access to information technology. The aim should be better integration of all information technology interests on campus including libraries. It is interesting to see that at least one university, that is QUT, as we heard today, is doing just that. Cochrane was concerned that for better cooperation to be achieved with others involved with information technology, a forum was needed within which all these interests could come together.

In the discussion, and perhaps in the papers too, these were recurrent themes that seemed to me to be of particular interest and that need serious and more detailed attention:

- greater integration of information technology interests on campuses;
- the importance of a collaborative approach to the development and use of networks such as AARNet and ABN. The technology essentially is there, but there is a question about mechanisms and structures needed to be able to utilise it properly and efficiently on a national basis;
- what libraries can contribute to achieving more orderly access to electronic information on networks which is already becoming a chaotic problem in size and complexity;
- the conflict between responding to developmental opportunities as the technology changes and new systems become possible and meeting ongoing institutional needs for basic services under heavy pressures of increasing student numbers and declining resources;
- the problem of the academic publishing process and its consequences for library resources and the ability of libraries to provide effective access to information;
- Who Speaks For Libraries? If agreement can be reached on preferred futures what are the strategies that will be needed to achieve what is desired and who — what body — will develop them and coordinate their implementation?

If position papers about various policy alternatives implicit in the kinds of issues that we have been discussing are to be drawn up in such a way as to have maximum effect on the bodies to which they will be directed, there needs to be a much fuller and more systematic working through of the issues. Such papers would have to be formulated bearing in mind the different perspectives and needs of the various organisations that have an interest in them — the AVCC, DEET, the New South Wales ViceChancellor's Conference (and analogous bodies in the other States), and the Higher Education Council, for example. But who is going to do this? How are the various issues that have only been touched on here to be more fully — and authoritatively — explored so that what is finally recommended cannot be ignored. Can research be quickly undertaken to establish evidence?

This is something that your community of librarians must work through, perhaps involving other academics as may be useful and necessary. There certainly seems enough to do. Good luck in doing it.[1]

Notes

[1] Professor Wicken also acknowledged the work of Christine Henderson and Boyd Rayward and of the following members their staffs in organising the conference: Paul Wilkins, Isabella Trahn, Maureen Henninger, Christine Mcbrearty and Ray Locke. Though he singled out these individuals, he also paid tribute to the fine efforts of a great many others, especially in the library, who had contributed to the success of the occasion. He particularly thanked DA Books and Journals for their financial contribution (eds).

General Discussion

A period of general discussion ended the Conference, along with the Chairman's concluding remarks. What follows does not represent a transcript of the discussion, but a highly abbreviated account of some of the issues raised. As a result no attempt is made here to identify the individuals who volunteered questions or comments. They are simply indicated by the designation, Q. This session was facilitated by Professor Buckland who responded to some of the questions that had a direct bearing on the US or the University of California library system.

Q. *Problem of Academic Publishing:* A major issue that has come up is that of the academic publishing process and its consequences for the flow of information in the total higher education system. It is crazy that, as tax-payers, we are funding the higher education sector to the tune of x billion dollars while Academics do their research and give away its results to multinational companies who then sell it back to us — as Tom Cochrane has indicated — at higher and higher prices. Libraries are at the end of this process. Somehow we have to break the circle. But it is certainly not a problem that libraries can deal with alone. We need to set in process a debate similar to the one that is going on in America. To achieve change this process is going to be long, difficult and fairly bloody because there is a lot of money involved.

Collaboration and the Transition Stage to the Electronic Library: Another serious issue is the transition stage to the electronic library. This will not be a total transition anyway but a continuing process with greater amounts of information being made available through the networks. In the electronic war that I foresee we will have to take a collaborative approach. It is simply not possible for us to utilise the networks efficiently and effectively in terms of delivery of services to our users in the universities, unless we collaborate. In Australia I don't believe at the moment we have the mechanisms which allow us to collaborate effectively. If we concentrated on issues such as the two I have raised and tried to achieve some useful action about them this would be useful. I don't necessarily have any easy answers about what it is we should do because I don't think there are any easy answers.

Q. Who are the collaborators you have in mind, I am not clear?

A. Anybody who has a connection with creating databases, that is libraries and a whole lot of academics. I mean, there are databases all over the place to which there could be reasonable access. But we don't really have any seriously effective directory services. This is not to say that there is not some effort going on, but the kind of directory service that is needed in an electronic environment has to be much more developed than what we have at the moment. Collaboratively we could do it. Not a lot of money would be involved. The technology is there to deliver. But for delivery to be achieved other parts of the computer sector, a whole lot of administrative people and academic departments will have to be involved. Librarians are going to have to be the driving force but there are as yet no mechanisms to assist collaboration to take place.

Q. *Primary Electronic Publishing:* We have to face the problem of primary electronic publishing in Australia. We need to start with a shared facility in which documents that we select are stored in an image form. This might be a facility doing something like what the Australian Securities Commission has done for business documentation. ABN for example could provide a vehicle for retrieval. Once you have got the technology up and proven, next comes the need to encourage the input of Australian produced scientific writings. They might, in the first instance, be published through the electronic facility I am envisioning, even if authors later go on to offer their papers to overseas journals. If we were able to achieve that pattern, then we will really have done ourselves a great favour. Implicit in this idea is an attack on the notion of exclusive publishing agreements which have characterised academic publishing. Our own publishing operations at my institution are based on the idea of non-exclusive publishing agreements. The author retains the copyrights. If this happens then we could hope that the first place authors would publish in Australia would be through our own image data base. This would mean we would no longer be in the ridiculous position of having to buy back our own national heritage which had been exported in the first place. Among the players in this whole process is a very under-recognised and under-funded group in the library community, the database producer. One most gratifying thing about CD ROM as a technology in Australia has been the way in which it can make Australian databases available It is largely the documents that the database producers have indexed over the years that need to go on the cooperative host about which I am speaking.

Librarians' Relationship to Academics: Another problem we have to deal with is that the Australian industrial relations set-up in higher education places a great divide between librarians and academics. Both groups are still not sure of what we are and where we belong. The kind of involvement we are foreshadowing here of a role in the generating and publishing of information, of completing the loop of information provision and generation in our future state, requires new kinds of arrangements. These must include close involvement of librarians with information skills teaching. Promoting the publishing side of the research cycle has to be much better handled than many of our universities are doing at the moment. We have to play a part as librarians in this.

Q. *Need for a Forum for a Variety of Interested Parties:* Reference has been made to the Coalition for Networked Information in the United States which was formed by 3 groups: Educom, an organisation with a long record of interest in using telecommunications and computers for instruction in higher education, CAUSE which has similar interests in the use of information technology in universities and the Association for Research Libraries. The Coalition has been far more active and successful and a has a larger and more diverse membership than were expected. Success is partly the result of the leadership displayed by the individuals involved but I think it is also partly the result of the organisation providing a forum for different groups to come together. It would be very destructive for progress if the groups responsible for library services, computer services and for running networks regarded each other as rivals or competitors rather than as collaborators. I wonder if we should create a similar forum in Australia. It seems to be working quite well in the States.

Q. *The Training role and AARNet:* It is relatively easy to get our act together and to document what is happening and what is currently available etc. The real disadvantage we have is that there is a lot of rhetoric about electronic communication but not a lot of action. While a lot of the participants at this conference would say "yes" to great idea, when they get back to their own individual libraries they have one staff member and not much equipment and nobody really knows anything much about what is possible and needs to be done. We have a credibility problem. Until we can deal with the service/training side of electronic information more effectively than is the case now, we really have little hope of coming to grips with responsibilities for controlling or coordinating publishing on an electronic level. In most places, there is in fact no ready access to the technology. Thus there is little opportunity for teaching academics or general staff how to use it effectively, let alone promote it. Yet there is a lot of education and training needed throughout the country and we now have an opportunity emerging to get in at this end — and illustrate to everyone what is possible — through AARNet. While AARNet is just a stage in the development of the current communication technology that has come through to us, we need to use it effectively as a basis for moving on when that becomes possible. We have to become quite versed in what is possible.

Lack of coordination is a great danger. If are not careful we could all be running off in different directions and developing manuals on how to use the Internet through our own particular computing devices and our particular communication protocols when in fact all that is needed is for existing good quality documentation to be widely distributed and critically analysed. There is a submission before the AARNet National Coordinating Committee at the moment for a coordinated national approach to things like developing new video programs on how to use it, how to use it in a UNIX environment, a VAX environment,, how to use it from a PC etc. Also involved are developing standards and literature on working with data retrieved through it, the personal computing software that could be used to re manipulate files so that they are useful to the individual academic etc. This is the direction we really need to be looking at — what groups within the educational community are going to provide the education and training that all of this involves?

A. It would seem to me that of all the difficult problems we have touched on today, this ought to be the most feasible to address. Fifteen years ago in the US everybody was worried about learning how to do on-line searching especially on DIALOG. There were workshops and workshops and all sorts of textbooks and manuals have been published. Now it all of this has been more or less absorbed into general library know how. Within the last 12 months a similar process has started in relation to the Internet and how do you navigate it. The workshops on this around Berkeley are regularly oversubscribed. here are also now manuals on this (one, as I recall, by an Australian). What is needed is for one or two people who are interested in finding out about it, with some encouragement from their supervisors, to go do it. It seems to me this is largely a matter of energy and priority and a more practical matter than many of the other things that we have addressed.

Q. *An Academic's Point of View:* I am here as an academic rather than as a librarian. I was wondering what kind of comment I might make that would be constructive for the discussion which I have listened to during the course of today. I ask myself what have been my main problems as an academic in the use of academic libraries. After I thought about this for a few minutes, I realised that the problems I had 15 years ago are the problems I still have today. The fundamental difficulties which academics have with libraries have not really changed such a great deal even though the mode of delivery of documents may have changed substantially. I want to refer to tensions. There are tensions in the expenditure of library funds always, but three stand out for close attention. I point out that they are all involve long standing issues and therefore presumably have been widely discussed by you all, but we academics can sometimes benefit from being brought into these discussions and having some reasons given to us as to why things are as they are. First is the allocation of the library budget between monographs and serials. This is responsible for high blood pressure in different circles but it seems to me that the university libraries of the whole world have been victims of prices for far too long and one of the ways of possibly easing the tension between acquisition of monographs and serials is to work out a way of not being price victims to the degree that the libraries in fact now are.

The second matter concerns the service which the library renders to its domestic users and to its outside users. Large university libraries which are depositories of substantial collections are in fact approached for inter-library loan information constantly. The question I have here is — how do you allocate resources towards higher level activity if you know that your own readers will be disadvantaged by all the funds that are put into ILL?. Is there not in fact a case to be made to the government and whichever other funding bodies might be brought into the argument, that the ILL activities of large university libraries ought to be separately funded and separately budgeted.

The third point I would like to bring up concerns that perennial balance of funding between technical services and user services. As researchers we always want the technical services side of the library to be best funded. As teachers we want the user service side of the library to be well funded and, of course, those of us who are balancing our career in two directions would like to see the university libraries balance their budget across the two. But the question is: which is it better to defend at any particular time? It might be in this matter, as in the other matters I have raised, that experience in North America and Europe would do a great deal to elucidate the debates that take place in this country. I wondered whether Michael Buckland might care to comment on some of the points I have made from a North American perspective.

Q. *Academic Staff's Lack of Awareness of the Library:* Well I hesitate a little to do that. Many of the people here are familiar with the situation in North America. Delays in inter-library loans are essentially related to the priority that an inter-library loan department gives to its service or that is given to that inter-library loan department by the management of the library. As you were speaking I was reminded vividly of a presentation I heard last night in the School of Information, Library and Archive Studies by Professor Julie Bitcheler from the University of Texas, who has been in Australia for a month or two. She is going around interviewing academics, professors in geology and chemistry mostly, about how they get information. At the seminar in the School, She was reflecting informally on some of what she was finding. What she would do is to visit these Professors in their offices and ask them about their research. She would ask them, for example, to show her an off-print of their latest work and would seize upon a citation saying, "and how did you learn about that? Where did you get it?" and so on. While she was talking about the situation in Australia, it is clear that it is not uniquely Australian. The dismaying part about her account was that most of these Professors had amazingly little knowledge about what the library could do for them. In one case the professor said, "Well, I get what I want through my electronic mail and my connections elsewhere, not through the library which is really of no use to me. The only thing I really lack is some way of knowing what future conferences have planned in my field." Professor Bitcheler replied that this was an easy problem to solve and she mentioned a standard reference of which there should be a copy in the library." She went off, got the particular reference source, brought it back and showed it to the scientist, much to his amazement.

Now, in a special library the librarians are trained and funded to be very aggressive and proactive in providing a service. In some of the situations that Professor Bitcheler encountered not only were the academic staff lacking in knowledge as to what the library might be able to do for them, but the library staff could in fact not actively do much for them any way. They were simply being run completely ragged coping with providing basic library services to undergraduates and dealing with a host of other pressures. That is a pretty sad combination. It is a management problem. It is very difficult to imagine a healthy growth towards an encouraging future unless the academic staff are knowledgeable about what the issues are or even knowledgeable about what the frustrations are. As a member of the academic staff, I know that it is a lot easier to get excited and agitated about something if I understand there is a frustrating situation and that something needs to be done about it than if I do not know that there is a problem. It is tempting for librarians not to share their problems partly because this seems like admitting failure but also partly because, as the saying goes, it is difficult to deal with success. I mean, if you have a good service people will want to use it and that makes life busier and more difficult. Nevertheless, I do not see how good progress is going to be made without coopting the academic staff, getting into a partnership with them and, from a positive point of view, sharing with them the enthusiasm for what might be.

Q. *The UC System Highlights Australian Network Failure:* These points about collaboration are worth dwelling on for a moment. It has been said here today that we can solve many of our problems through collaboration. Historically in Australia at a national level collaboration has often manifested itself as collaboration between the university library sector and the national library. We have also heard today about the University of California providing access through its catalogues to the contents of its journals collection, in particular the spectacular example of Medline being loaded onto MELVYL and the notable increase in the use of Medline and the journal resources in the university library system that resulted. In this country our scale is such that we cannot individually match the University of California, but we can sometimes get a little close at the national level. We have had a history of Medline in this country, provided at a national level, and we have a national network called ABN.

But we are now facing the situation where access to Medline nationally through ABN is about to be withdrawn by the National Library and the Department of Health, presumably on the grounds that it is no longer cost effective to run a service like this. Yet we learn it is possible to load Medline into an individual library system and provide locations for what is held. Despite the fact that we have a large scale library computing network and that the libraries of this country collectively own a major proportion of the world's medical literature as indexed by

Medline, unlike the University of California system we are not attempting to simplify and generalise access to Medline and through it to the resources available in our libraries. We are about to do the opposite. Something is not right here it seems to me. We seem simply to be continuing to do at the national level what individual libraries have always done. We are concentrating on an old fashioned catalogue, a catalogue of the books and of the journals at title level that have been in our libraries. But more needs to be done — and is feasible to do — as the Medline example in California suggests. Certainly we should be making more of the Australian Bibliographic Network and its capacity, through linking to AARNet, to provide the sorts of developments in access and service that we want.

A. The University of California is a strange, eccentric, massive beast and not typical, but because it is so large and because there has been a fair amount coordination, it has been possible for the system to do some things and to show how other things might be done, perhaps on a smaller scale, at individual institutions. A colleague who has been studying the formal planning documents of large research libraries in the United States told me that as of last summer 44 out of 45 of the plans he looked at explicitly included the mounting of bibliographic databases on the campus system. Now those are mostly small and inexpensive databases. However, what you say is very persuasive. There is something wrong if bibliographical support is being withdrawn at a time when much of the infrastructure is in place physically and we can begin to see more clearly what might be done. It is going to take real leadership to turn that around I think. Surely there is something more to be said on the subject.

Q. *ARL Preferred Futures Model:* One of the things which has struck me is the fact that we have all got together today to talk about confronting the future. One of the things I think we all deal with in our own institutions is trying to forge our way to the future be establishing coalitions within our own institutions, by trying to communicate to colleagues in our own institutions. I suggest that we now look at for Australia something like the preferred futures model coming out of the ARL. We should get together the CEOs and the university librarians and perhaps other stakeholders to examine the futures we have been talking about today. We might in this way achieve a greater understanding and a clearer appreciation of how libraries and computers and university administrations all go together to achieve the kind of cooperation and collaborative projects the need for the development of which we are all aware.

Q. *Pre-1987 Universities and Research Infrastructure:* George Zuber has enlightened me a little on research infrastructure funding, but he also pointed to the fact that the trend is for all funding to go back into one bucket fairly rapidly. I also understand the chicken and egg sort of situation in which you are funded according to how well you are able to perform. There is still a particular problem with the pre-1987, pre- Dawkins abolition-of-the-binary-divide universities which do not have the infrastructure for research but are actually being bled dry by the developments taking place in research within them. I think the major universities are feeling the same sort of thing so there is still in this matter of research funding a very wide issue.

Q. *(AARNet) and National Access to Databases:* In the current economic climate the injunction to the Ross Committee that they must report within the constraints of existing funding levels, is becoming more and more important. The Ross Report had a number of proposals for lobbying the Department of Employment Education and Training for funding. DEET has made it quite clear that its political agenda at the moment is to reduce the number of institutions that it has to have dealings with, hence the amalgamations program. It is not remotely interested in dealing with pressure groups such as libraries, computing centres, biological researchers — you name it. We have seen the success of AARNet. This was an initiative of the Australian Vice Chancellor's Committee. AARNet is staffed by two people. These are two people funded with the sole responsibility of making sure that infrastructure remains in place and that the infrastructure is represented in the AVCC deliberations on funding. This highlights one of the problems of cooperation between Australian academic libraries at the moment: there is no designated secretariat, there is no formal meeting procedure whereby people come along and put their money where their ideas are. At the moment there is a grant from DEET of about $200,000 for putting up on AARNet the *Current Contents* databases so that they are available throughout the nation. My company has been engaged to prepare the documentation for bids to supply software, hardware and services to make that happen. However the governance of such a project needs to be considered and many of you will have received a questionnaire asking for an indication of the sorts of money that you would be prepared to spend on such a cooperative service and also for your comments on governance. Such a modest step in the right direction immediately provides a focus on national cooperation with perhaps world cooperation to follow. I suspect that there will have to be considerable more input into the management of this particular project than is available now; we should establish a secretariat to provide some sort of working management for it.

Changing Funding Patterns and US Models: This raises a question as to who speaks for libraries and the Australian library community nationally and internationally. I have been fortunate to travel to the US on several occasions. Often on such trips you hear comments about who from Australia has been through such and such a place and what he or she said. But then there is never any form of action to follow up these visits. Unlike the US where attempts at least are being made, I don't think that we have been very good at actually addressing the issue of being exploited by publishers' pricing strategies. This has to grow in importance for us. Increasingly, given the one bucket theory or model, Australian universities will become much more like their American counterparts in not being totally funded from the Federal purse. They are going to be funded through entrepreneurial activities and from a variety of sources. There may, in this changing funding climate, be models in American, such as the Centre for Research Libraries, which Australian academic libraries could follow for developing new strategies for cooperation between themselves. The Center for Research Libraries, for example, has a cooperative storage project. It also has a cooperative acquisitions budget which is administered by a board and which is used to buy materials which its library members believe should be held in the United States but which they do not want to buy individually. Electronic delivery out of that collection is one of the Center's priorities. I wonder if there are any other models in North American like this that we could build upon for improving cooperation.

Contributors

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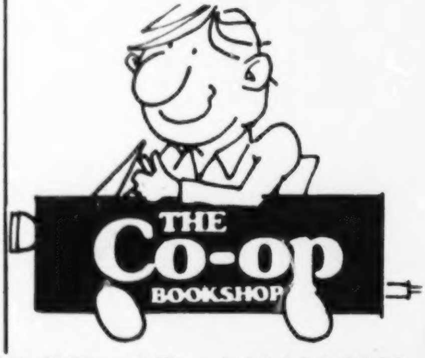

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